27599

National Library of Canada / Bibliothèque nationale du Canada

CANADIAN THESES ON MICROFICHE / THÈSES CANADIENNES SUR MICROFICHE

NAME OF AUTHOR / NOM DE L'AUTEUR DEREK JOHN ALLISON

TITLE OF THESIS / TITRE DE LA THÈSE VALUE ORIENTATIONS IN SCHOOL ORGANIZATIONS

UNIVERSITY / UNIVERSITÉ UNIVERSITY OF ALBERTA

DEGREE FOR WHICH THESIS WAS PRESENTED / GRADE POUR LEQUEL CETTE THÈSE FUT PRÉSENTÉE M.Ed

YEAR THIS DEGREE CONFERRED / ANNÉE D'OBTENTION DE CE GRADE 1976

NAME OF SUPERVISOR / NOM DU DIRECTEUR DE THÈSE Dr. L. R. Gue

Permission is hereby granted to the NATIONAL LIBRARY OF CANADA to microfilm this thesis and to lend or sell copies of the film.

The author reserves other publication rights, and neither the thesis nor extensive extracts from it may be printed or otherwise reproduced without the author's written permission.

L'autorisation est, par la présente, accordée à la BIBLIOTHÈQUE NATIONALE DU CANADA de microfilmer cette thèse et de prêter ou de vendre des exemplaires du film.

L'auteur se réserve les autres droits de publication; ni la thèse ni de longs extraits de celle-ci ne doivent être imprimés ou autrement reproduits sans l'autorisation écrite de l'auteur.

DATED / DATÉ April 8, 1976 SIGNED / SIGNÉ [signature]

PERMANENT ADDRESS / RÉSIDENCE FIXÉ Dept. Educational Administration
University of Alberta
Edmonton, Alta.

NL-91 (3-74)

INFORMATION TO USERS

THIS DISSERTATION HAS BEEN MICROFILMED EXACTLY AS RECEIVED

This copy was produced from a microfiche copy of the original document. The quality of the copy is heavily dependent upon the quality of the original thesis submitted for microfilming. Every effort has been made to ensure the highest quality of reproduction possible.

PLEASE NOTE: Some pages may have indistinct print. Filmed as received.

Canadian Theses Division
Cataloguing Branch
National Library of Canada
Ottawa, Canada K1A 0N4

AVIS AUX USAGERS

LA THESE A ETE MICROFILMEE TELLE QUE NOUS L'AVONS RECUE

Cette copie a été faite à partir d'une microfiche du document original. La qualité de la copie dépend grandement de la qualité de la thèse soumise pour le microfimage. Nous avons tout fait pour assurer une qualité supérieure de reproduction.

NOTA BENE: La qualité d'impression de certaines pages peut laisser à désirer. Microfilmée telle que nous l'avons reçue.

Division des thèses canadiennes
Direction du catalogage
Bibliothèque nationale du Canada
Ottawa, Canada K1A 0N4

THE UNIVERSITY OF ALBERTA

VALUE ORIENTATIONS IN SCHOOL ORGANIZATIONS

by

DEREK JOHN ALLISON (C)

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH

IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE

OF MASTER OF EDUCATION

DEPARTMENT OF EDUCATIONAL ADMINISTRATION

EDMONTON, ALBERTA

SPRING, 1976

THE UNIVERSITY OF ALBERTA

FACULTY OF GRADUATE STUDIES AND RESEARCH

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research, for acceptance, a thesis entitled "Value Orientations in School Organizations", submitted by Derek John Allison, in partial fulfilment of the requirements for the degree of Master of Education.

L R Gue
.....
Supervisor

.....

David G Wangler
.....

Date... April 22, 1976..

ABSTRACT

The theory of dominant and variant value orientations developed by Florence Kluckhohn provided the theoretical base for the present study. Following a discussion of values and value orientations as presented in the literature, the report adapts the Kluckhohn theory to identify Focal, Relational and Dispositional value orientations as being of importance to all professional members of school organizations. Subsequently the Organizational Values Inventory (Schools) was designed to measure value orientations within these areas.

This instrument was piloted with a small representative sample at The University of Alberta. Resulting data were analysed by Pattern Frequency and Preference Score procedures, which indicated that the instrument was capable of discriminating between value orientations of respondents classified by societal and behavior sphere differences. Estimates of face, content, predictive and factorial validity were obtained. While the factor analysis for Focal items indicated relatively clear patterning into expected positions, analyses for the Relational and Dispositional items produced more complex matrices. A factor analysis of the total instrument items suggested that three general factors were operating: Bureaucratic Ethos; Humanist-Professional; and Traditionalism.

In the final section of the report, it is suggested that the instrument could be of value in future research and possible areas for investigation are suggested.

ACKNOWLEDGEMENTS

The Board of Northland School Division #61 provided the author with leave and financial assistance which is gratefully acknowledged.

Many other individuals provided encouragement and assistance either singly or collectively. The author particularly wishes to acknowledge the encouragement and guidance provided by Dr. Les Gue, Dr. A. Konrad, Dr. E. Seger, Dr. D. Friesen and Mrs. C. Prokop as well as the tolerance of staff and students of the Department of Educational Administration at The University of Alberta.

The initial encouragement and the realistic perspectives afforded by W.A.Adams and W.I. Biggar are remembered with gratitude. The author especially wishes to acknowledge the debt owed to his wife Patricia, and his son Carac, for their aid and tolerance which made this manuscript possible.

TABLE OF CONTENTS

CHAPTER		PAGE
1.	INTRODUCTION TO THE STUDY	1
	STATEMENT OF THE PROBLEM	2
	SIGNIFICANCE OF THE STUDY	3
	DELIMITATIONS OF THE STUDY	4
	LIMITATIONS OF THE STUDY	5
	DEFINITIONS	5
	ASSUMPTIONS	6
	SUMMARY	6
2.	THEORETICAL FOUNDATION FOR THE STUDY OF VALUES	7
	REVIEW OF THE LITERATURE PERTAINING TO THE CONCEPT OF VALUES	7
	Normative Theories of Values	8
	Nomothetic Values	8
	Nomothetic values and norms	9
	Idiographic Values	10
	The cognitive aspect	11
	Idiographic values and standards	11
	Idiographic values as motivators	12
	The emotive aspect	12
	Idiographic Values and Other Aspects of the Individual	13
	Values distinguished from attitudes	13
	Values distinguished from beliefs	14

CHAPTER PAGE

Summary 15

The Location of Values 15

Autonomous man 17

Behaviorism 18

Definition of Values 19

Definitions in the Literature 20

Values defined 21

THE CONCEPT OF VALUE ORIENTATIONS 22

Definitions of the Concept 22

Characteristics of Value Orientations 23

Organization 23

Relationship to personality 24

Relationship to social systems 24

Variation 24

SUMMARY 25

3. REVIEW OF PERTINENT RESEARCH IN EDUCATIONAL ADMINISTRATION 26

THE DIFFERENTIAL VALUES INVENTORY 26

Theoretical Base 26

The Instrument 27

Reported Research 27

Prince 27

McPhee 29

Lupini 29

Abbott 29

CHAPTER PAGE

Discussion 30

THE KLUCKHOHN SCHEDULE 31

Theoretical Base 31

The Instrument 34

Reported Research 35

Discussion 36

MEASUREMENT OF VALUE ORIENTATIONS IN SCHOOL ORGANIZATIONS 38

Review of the Problem 38

Appropriate Methodology 38

SUMMARY 39

4. THE CONCEPTUAL FRAMEWORK AND THE MEASUREMENT TECHNIQUE . 40

ADAPTATION OF THE KLUCKHOHN THEORY TO THE INVESTIGATION OF VALUE ORIENTATIONS IN SCHOOL ORGANIZATIONS 41

The Applicability of the Kluckhohn Theory to Organizations 41

The societal nature of organizations 41

Development of a Conceptual Framework for the Identification of Value Orientations in School Organizations. 42

Additional Aspects of the Kluckhohn Theory 43

Dominant and variant patterns 43

Societal differences 44

Value Orientations in School Organizations 45

Dispositional 46

Relational 48

Focal 48

CHAPTER PAGE

PROPOSED VALUE ORIENTATION POSITIONS IN THE PRESENT CONCEPTUAL FRAMEWORK 49

Dispositional Value Orientation Area 49

Individuality 49

Laterality 50

Lineality 50

Relational Value Orientation Area 52

Subjectivity 52

Mastery 53

Mediationary 53

Focal Value Orientation Area 55

Task 56

Pragmatism 56

Process 57

Summary 57

ADAPTATION OF THE KLUCKHOHN TECHNIQUE FOR ELICITING VALUE ORIENTATIONS 60

The Original Kluckhohn Instrument 60

Item format 60

Item structure 62

Item scoring 63

Instrument structure 63

Administration 63

Variants of the original schedule 64

Structure of the Proposed Instrument 64

CHAPTER PAGE

Item format 65

Item structure 65

Item scoring 65

Instrument structure 66

Administration 67

Reliability and Validity 67

Reliability 68

Validity 68

Face validity 69

Predictive validity 70

Factorial validity 70

Additional estimate 70

SUMMARY 71

5. THE INSTRUMENT 72

THE DEVELOPMENT OF THE INSTRUMENT 72

Item Development 72

First screening 73

Second screening 73

Third screening 75

Final form 75

Length 78

Item Rationale 78

Focal items 79

Relational items 81

CHAPTER PAGE

Dispositional items 84

DESCRIPTION OF THE FINAL INSTRUMENT 86

Section 1 - The Introduction 86

Section 2 - Item Battery 87

Section 3 - The Demographic Data Section 89

Section 4 - The Rating Sheet 89

Appearance of the Instrument 90

DATA ANALYSIS - DISCUSSION 91

Nature of the Data 91

Nomenclature 91

Distance 93

Linked types 93

Non-ordered types 95

AREAS OF ANALYSIS 95

Description 96

Item patterning 96

Dimension patterning 96

Summary 97

Differentiation 97

Between-pattern differences 97

Within-pattern differences 97

Summary 98

DATA ANALYSIS PROCEDURES - DESCRIPTIVE ANALYSIS 98

Pattern Frequency 99

CHAPTER PAGE

Criteria for dominance 99

The Kolmogorov-Smirnov test 100

Critical number 100

Dimensions 101

Preference Score Analysis 102

Items 103

Dimensions 103

Comment 103

DATA ANALYSIS PROCEDURES - ANALYSIS OF DIFFERENCES . . . 103

Proportion of Respondents Choosing Dominant Patterns . 104

Criterion 104

Preference Score Analysis of Differences Between and Within Dominant Patterns 105

Between-pattern differences 106

Within-pattern differences 107

Summary 107

HYPOTHESES 108

SUMMARY 110

6. DESCRIPTION OF THE SAMPLE 111

Administration 111

Classification of Respondents 111

Societal differentiation 112

Behavior sphere 114

Additional classifications 114

CHAPTER PAGE

STATISTICAL DESCRIPTION OF INSTRUMENT DATA 114

Item Means and Standard Deviation 114

Focal dimension 118

Relational dimension 118

Dispositional dimension 118

Reliability Co-efficients 119

Adjusted reliability co-efficients 119

Reliability statement 120

DESCRIPTIVE ANALYSIS 120

Nomenclature 120

Pattern Frequency Analysis 121

Focal dimension 122

Relational dimension 122

Dispositional dimension 126

Summary 126

Preference Score Analysis for the Determination of Dominant Patterns 126

Comparison of Dominant Patterns as Yielded by Pattern Frequency and Preference Score Procedures 129

Conclusion 132

DIFFERENTIAL ANALYSIS 133

Proportional Differences 133

Value Orientation Preferences of Societally Differentiated Respondents 134

Focal dimension 134

Relational dimension 134

CHAPTER PAGE

Dispositional dimension 138

Summary 138

Value Orientation Preferences of Behavioral Sphere Differentiated Respondents 138

Focal dimension 138

Relational dimension 140

Dispositional dimension 140

Summary 140

Preference Score Differences 140

Findings 143

Rural and urban value orientations 143

Male and female value orientations 147

Canadian and non-Canadian value orientations . . . 147

Teacher and administrator value orientations . . . 148

OVERVIEW 148

Models for Analysis of Differences 148

Predictive Validity 150

SUMMARY 154

7. DISCUSSION AND CONCLUSIONS 155

REVIEW 155

VALIDITY 157

Face Validity 157

Content Validity 158

Predictive Validity 160

Factorial Validity 161

CHAPTER PAGE

Focal factors 162
Relational factors 164
Dispositional factors 167
Pervasive Factors 169
Factor 1: Bureaucratic ethos 170
Factor 2: Humanist-professional 172
Factor 3: Traditionalism 173
Alternative solution 173
Summary 174
The conceptual framework 174
Focal items 174
Relational items 175
Dispositional items 176
Conclusion 176
SUGGESTIONS FOR FUTURE RESEARCH 177

BIBLIOGRAPHY 179
APPENDIX A: THE ORGANIZATIONAL VALUES INVENTORY (SCHOOLS) . . 190
APPENDIX B: STATISTICAL INFORMATION 206

LIST OF TABLES

TABLE		PAGE
1	Traditional and Emergent Values as Proposed by Spindler	28
2	Kluckhohn's Value Orientation Areas and Range of Value Orientation Positions in Each Area	33
3	Common Organizational Problems and Corresponding Value Orientation Areas	47
4	Dispositional Value Orientation Positions	51
5	Relational Value Orientation Positions	54
6	Focal Value Orientation Positions	58
7	The Three Postulated Organizational Value Orientations and the Range of Possible Value Orientation Positions in Each	59
8	Example of the Kluckhohn Schedule: Item 2	61
9	Items Included in Initial Draft	74
10	Modification of Draft Instrument Items	76
11	Summary of Final Instrument Items	77
12	Focal Items Rationale	80
13	Relational Items Rationale	82
14	Dispositional Items Rationale	85
15	Example of Item Format	88
16	Possible Value Orientation Patterns	92
17	The Thirteen Possible Value Orientation Patterns Logically Ordered to Illustrate the Distance Concept	94
18	Respondents Classified on the Basis of Societal Differentiation	113

TABLE PAGE

19 Classification of Sample by Behavior Sphere 115

20 Classification of Sample by Age, Attitude to Alberta Education System and Years of Teaching Experience 116

21 Means, Standard Deviations and Reliability Co-efficients for all Items 117

22 Pattern Preferences of all Respondents for Each of the Focal Items 123

23 Pattern Preferences of all Respondents for Each of the Relational Items 124

24 Pattern Preferences of all Respondents for Each of the Dispositional Items 127

25 Comparison of Dominant Patterns Yielded by Pattern Frequency and Preference Score Analyses 128

26 Proportion of Male, Female, Canadian, non-Canadian, Rural, Urban and Satisfied, Dissatisfied Respondents Choosing Determined Dominant Patterns on Focal Items 135

27 Proportion of Male, Female, Canadian, non-Canadian, Rural, Urban and Satisfied, Dissatisfied Respondents Choosing Determined Dominant Patterns on Relational Items 136

28 Proportion of Male, Female, Canadian, non-Canadian, Rural, Urban and Satisfied, Dissatisfied Respondents Choosing Determined Dominant Patterns on Dispositional Items . . .137

29 Proportion of Teachers, Administrators and University Personnel Choosing Determined Dominant Patterns on Focal Items 139

30 Proportion of Teachers, Administrators and University Personnel Choosing Determined Dominant Patterns on Relational Items 141

31 Proportion of Teachers, Administrators and University Personnel Choosing Determined Dominant Patterns on Dispositional Items 142

32 Preference Scores and Associated Patterns for Males and Females for all Items and Area Totals 144

TABLE PAGE

33 Preference Scores and Associated Patterns for Canadian and non-Canadian Respondents for all Items and Area Totals 145

34 Preference Scores and Associated Patterns for Rural and Urban Residents for all Items and Area Totals 146

35 Preference Scores and Associated Patterns for Teachers and Administrators for all Items and Area Totals 149

36 Items Contibuting to the Rejection of Stated Hypotheses. . 151

37 Perceived Importance of OVIS Items 159

38 Three Factor Varimax Solution for Focal Positions 163

39 Eight Factor Rotated Rotated Varimax for Relational Positions 165

40 Seven Factor Varimax Rotated Solution for Dispositional Positions 168

41 Three Factor Varimax Rotated Solution for all OVIS Items 171

LIST OF FIGURES

FIGURE		PAGE
1	The Social Systems Model Illustrating Two Alternate Locations of Values	16

CHAPTER ONE

INTRODUCTION TO THE STUDY

In the course of a discussion of the tensions within Canadian educational systems, Williams (1974:11-2) states:

> One of the main reasons for the tensions we now face lies in the increasing conflict of different value orientations as they impinge upon positions of administrative responsibility. What appears to have happened is that the gap between the value positions of many professional educators, labelled the "establishment", and the dissident groups, composed of both professionals and the lay public, has widened so much that it is now defined as a problem area.

There is presently a paucity of research findings in the literature with which to explore the "problem area" indicated by Williams, as presently little information as to the value orientations of professional educators appears to be readily available. However, in the literature, the concept of value orientations has received scholarly attention, primarily in the context of anthropological research, and the theoretical and methodological bases of this research appear to have applicability to the educational setting. The development of an instrument in accordance with this established methodology, but specifically designed for research into the value orientations of professional educators, was considered to be both desirable and practicable.

STATEMENT OF THE PROBLEM

The central research problem is formulated as follows:

To devise and test a research instrument to measure selected value orientations of professional educators and administrators involved in the operation of school organizations.

Subordinate research problems are seen as being:

1. Selection of an appropriate methodology for the measurement of value orientations in school organizations.

Solution of this problem necessitates an investigation of the literature addressing the concept of values and value orientations, the currently reported research investigating values and value orientations in school organizations, an assessment of the methodologies employed in these studies, and the selection or creation of a methodology that would appear appropriate for the development of the instrument proposed in the research problem.

2. Development of a conceptual framework within which the proposed instrument can be developed.

While the previous subordinate problem addresses the form and method to be employed in the construction of the instrument, this problem is concerned with the content of the instrument. In addressing this problem, utilization of the literature relating to member behavior in school organizations will be required in order to develop the required framework.

3. Administration of the developed instrument and analysis of the acquired responses.

This problem will provide an opportunity to report on methods of scoring and analysing the data produced by the proposed instrument.

SIGNIFICANCE OF THE STUDY

There is evidence in the literature that value orientations of teachers and administrators are of importance in the study of school organizations. Sergiovanni and Carver (1973:23-4) argue that:

> Administrative effectiveness for school executives depends upon the continuous examination of internalized value assumptions. This examination should include comparing and testing value structures for goodness of fit or for overlap with those held by other educational workers, students and the society at large.

A similar concern for effective administration underlies the view of Sergiovanni and Starratt (1971:81) in their concern for the importance of values in the process of decision-making in schools. They hold that:

> Since decision making is the very essence of administration and supervision, and since decisions have fundamental effects on people, organizations, institutions, time, and events, the question of values cannot be ignored.

In this instance the writers are espousing the decision-making school of administration that has been identified by Perrow (1972:145). Herbert Simon, one of the early proponents of the centrality of decision-making to administration also acknowledged the importance of values in his 1957 publication *Administrative Behavior*, giving values equal weight with facts in the decision-making process.

The importance attributed to values by the writers cited suggests that empirical investigation of this phenomenon would be useful. Prince (1957:4) supports this view, and suggests that:

> Study of the effect of value differences held by individuals and groups upon relationships within the school opens up promising avenues of investigation in school administration.

Willower (1961:159) offers a stronger statement considering that:

> The increased understanding of the administrative process which empirical research on values could add is crucial for both the social scientist and the practicing administrator.

However, a prerequisite for such empirical research is the availability of a suitable research instrument with which values may be measured. It is considered that such an instrument should be specifically designed for the population to be researched, and should honour the recognized theoretical foundations of the elements to be measured. The development of an instrument to meet these criteria is seen as a valuable contribution to the study of educational administration.

DELIMITATIONS OF THE STUDY

1. The study is confined to the development and pilot testing of an instrument designed to measure value orientations of the defined target population.

2. The study is confined to the development and testing of an instrument to measure only those value orientations as postulated in the conceptual framework chapter of this report.

3. The study is confined to a single pilot administration of the instrument to be developed.

LIMITATIONS OF THE STUDY

1. The validity of the instrument to be developed is contingent upon the scope and validity of the theoretical and conceptual frameworks adopted.

2. Statistical analyses of the data yielded by the pilot administration are limited by the size and composition of the pilot sample.

3. The proposed instrument is to be designed for a defined target population and no expectations may be reasonably held for its utility with other groups.

DEFINITIONS

Target Population. The target population for the proposed study is defined as all those professional educators and administrators directly involved in the operation of the Alberta Public School System. This definition includes elected School Trustees, Department of Education officials and teacher aides, but excludes students, janitors and similar employees.

Other essential definitions are made during the course of this report.

ASSUMPTIONS

1. It is assumed that value orientations are capable of measurement through the medium of a paper and pencil test.

2. It is assumed that respondents in the pilot sample will complete the proposed instrument accurately and honestly.

Other essential assumptions are made in the course of this report.

SUMMARY

Following a short introduction to the study, the central research question was stated, together with three subordinate questions. Statements from the literature were offered to indicate the significance of the study of values in educational administration. The study was delimited to the issues involved in the central research question, and limitations to the study were indicated. The target population was defined and necessary assumptions made.

CHAPTER 2

THEORETICAL FOUNDATION FOR THE STUDY OF VALUES

This chapter provides a review of the literature contributing to an understanding of values and value orientations.

REVIEW OF THE LITERATURE PERTAINING TO THE CONCEPT OF VALUES

Clyde Kluckhohn (1951:390) has remarked on the complex nature of the literature that addresses the concept of values, stating:

> ...one finds values considered as attitudes, motivations, objects, measurable quantities, substantive areas of behavior, affect-laden customs or traditions, and relationships such as those between individuals, groups, objects, events.

Frankena (1967:229) expresses a similar view, remarking that:

> The terms "value" and "valuation" and their cognates and compounds are used in a confused and confusing but widespread way in our contemporary culture, not only in economics and philosophy, but also and especially in other social sciences and humanities.

Frankena (1967:229) continues by commenting on the historical development of inquiry into value and values, noting that such eminent scholars as Plato, Nietzsche and Dewey have contributed to the literature. He concludes by identifying Normative and Metanormative theories of values, indicating that while the latter lies almost inclusively within the field of philosophical inquiry, the former is of interest to students of anthropology, psychology and sociology. As this study is concerned with value orientations in school organizations, attention will be given to Normative theories.

Normative Theories of Values

In broad terms two major models of normative values may be distinguished in literature. For the purposes of discussion these models are termed *idiographic* and *nomothetic*. Idiographic is defined as relating to and associated with individuals, and nomothetic is defined as relating to and associated with human collectivities. Human collectivities are taken to be social systems of unspecified size, thus including societies, peer groups, schools and other institutions.

This usage is substantially the same as that employed by Sergiovanni and Starratt (1971:31-5) and Getzels and Guba (1957).

Nomothetic Values

Inlow's (1972:2) reference to values as "inherent in collective man" and Jacob, Flink and Shuchman's (1962:15) observation that to some extent values define the obligations or rights of individuals in society, sketch an outline of the nomothetic model of values. This model emphasises the "normativeness characteristic" of values that Kolb (1957:54) sees as being of emerging importance in modern social usage. In an extreme sense the Broom and Selznick (1955:55) definition of norms as the "... rules, prescriptions or standards to be followed by people who occupy specified roles," illustrates the normative aspect of values in the nomothetic model.

Parsons and Shils (1951:12) define a value as:

> An element of a shared symbolic system which serves as a criterion or standard for selection among the alternatives of orientation which are intrinsically open in a situation.

This is seen as predominantly a nomothetic definition. Parsons concentrates interest on "a shared symbolic system", which may be interpreted as a language, a body of ritual, a complex of roles or any other manifestation of collective human activity which evidences common understanding. On the basis of this definition support may be generated for Spindler's (1963a:20) concept of cultural values, Sergiovanni and Carver's (1973:26) concept of organizational values, and indeed values which may be associated with any human group or collectivity.

Parson's definition further indicates that nomothetic values influence behavior by acting as standards for the selection of action. Thus there are elements of influence and direction involved which exert some controlling influence on behavior. A major problem with the nomothetic model is that of distinguishing between norms and values, both of which may be conceived as influencing the behavior of members of collectivities.

Nomothetic values and norms. Williams (1968:284) provides an illustrative comment:

> As one moves along a scale of increasing generality, in which norms become more and more detached from particular circumstances, a point will eventually be reached at which "norm" becomes practically indistinguishable from value.

That there is a distinction between social norms and values is indicated by Jacob, Flink and Shuchman (1962:10). Following their definition of values as, "...the normative standards by which human beings are influenced in their choice among the courses of action which they perceive," they add:

> ...it is essential to recognize that there is a crucial distinction between the compass of the term "normative" as used in our definition, and the term "norm" when used to connote a standard to which a social group conforms.

The writers then proceed to indicate that their use of the term normative is analgous to personal, and not social, standards of the desirable. This discussion serves to highlight the two common usages of the term "normative" in the literature on values. Whereas writers who incline towards the nomothetic model of values tend to use normative in the sense of social phenomena, writers who tend to subscribe to the idiographic model employ normative to denote internalized standards of the desirable.

Idiographic Values

Inlow's (1972:2) definition of values as, "... the determiners in man that influence his choices in life, and that thus describe his behavior," considers values as idiographic phenomena. Tolman's (1951:286) psychological model, and the "concept of conscious choice" definition proposed by Erickson (1962:2) appear to adopt a similar emphasis. All three writers see values as properties contained within human consciousness which are able to interact with other aspects of personality. In terms of this model human behavior is generally seen as deriving from the interaction of facets of personality as a result of stimuli originating from the environment. The basic model allows for various degrees of emphasis to be placed on the role of values as modifiers of behavior. While Inlow considers internalized values as determining behavior, Tolman advances a less extreme view, describing

values as a predominantly mediating force that influences behavior.

The idiographic model that is contained in the writings of these authors has a number of implications.

The cognitive aspect. The concept of values as internalized properties of the actor suggests a cognitive characteristic. Parsons and Shils (1951:599), Kluckhohn (1951:395) and Williams (1962:283) have all identified an element of cognition in their discussions of idiographic values. This element of cognition presupposes in its turn that an actor is able to identify and verbalize his values. Kluckhohn (1951: 397) specifically attributes the property of verbalization to idiographic values, although he notes that, "..the actor's values are often inchoate, incompletely or inadequately verbalized." Nevertheless, the model of actor values appears to imply at least an awareness on the part of the actor of his values.

Idiographic values and standards. The term "standards" is used in the sense of criteria of the desirable, and in the majority of the available literature it is this quality that is most frequently used to describe values. In the context of the idiographic model, Hallowell (1955:83) suggests that actor values are standards acquired as a result of interaction with the environment and may be conceived as the basis of "moral order". This view tends to emphasize actor values as conceptions of social standards acquired through experience, providing a link between the idiographic and nomothetic models of normative values.

Pepper (1958) advances a different view where idiographic values are standards that evolve primarily to ensure the survival of an individual. Contrary to the previous thesis, this conception, by placing emphasis on survival, appears to imply the possibility of amoral behavior as a result of the influence of actor values. Pepper's writings also allow the attribution of values to other than *homo sapiens*. Although some support for crediting values to other species may be found in Tolman's (1951) work, it has little support from other prominent writers.

Idiographic values as motivators. Implicit in the conception of values as internalized determiners, or conditioners of behavior, is the characteristic of motivation. Kluckhohn (1951:425) has specifically acknowledged this aspect of idiographic values, and Pepper's (1958) writings may be interpreted as emphasising motivation as a manifestation of value standards that are referenced to survival. Thus by their very nature values are seen by some writers as prompting actor behavior. This conception raises the question as to whether values may motivate action in the absence of external stimuli. This would appear to be a logical implication of the motivational force of internalized values. Actor behavior which is apparently unprompted by external stimuli, but explainable in terms of internalized values, may be seen as an extreme of the idiographic values model.

The emotive aspect. Jacob, Flink and Shuchman (1962:17-21) identify a number of writers who have suggested that internalized values are intimately connected with emotions. Jacob *et.al.*(1962:18) cite

Dewey's comment that "immediate likings or emotive expressions present themselves as candidates for value status," as being representative of this view. Parsons and Shils (1951:80) also discuss the affectivity characteristics of values, suggesting that if values are concerned with what is desirable, then some aspect of affectivity would appear necessary. Kluckhohn (1951:432) comments on the "feeling which always attaches to values", and further adds that, "since value always involves affect, cathexis and value are inevitably interrelated." (1951:398). Commenting on the emotionist position as compared with Kluckhohn's view, Jacob *et al.* (1962:18-9) state:

> For the emotionists, value judgements have both cognitive and emotive functions but the principal and peculiar function of value words is to carry emotive meaning. To Kluckhohn, a value judgement is inextricably a union of cognitive and cathectic elements in which neither has universal primacy.

Idiographic Values and Other Attributes of the Individual

By locating values within the actor the idiographic model allows for confusion between values and other attributes of individuals. In particular the concepts of attitude and belief appear similar to the concept of idiographic values. Areas of distinction between the terms may be found in the literature.

Values distinguished from attitudes. Summers (1970:2) concluded from an overview of the literature related to attitudes that "there is general consensus that an attitude is a predisposition to respond." This element of predisposition has been identified by Allport (1967: 8) as "a mental or neural state of readiness", a quality that is

usually not attributed to the concept of idiographic values in the literature surveyed. Gue (1967) cites the absence of this quality in conceptions of values as a major differentiation between attitude and value.

A further area of differentiation is the characteristic of the desirable. Kluckhohn (1951:423) cites "the absence of imputation of the desirable" as a principal difference between attitude and value.

Values distinguished from beliefs. Parsons (1951:162) suggests that beliefs are "primarily cognitive" in nature, thus minimizing elements of affectivity. Such an observation suggests that one area of distinction between values and beliefs would be that values are primarily affective and beliefs primarily cognitive. As previous discussion has indicated the idiographic model of values implies both affective and cognitive components. However, Kluckhohn (1951: 398) states that "value always involves affect." This is not necessarily so with beliefs.

Parsons (1951:162) further suggests that beliefs are "all existential". Beliefs as existential propositions are seen by Rokeach (1968) as conceptions of "true or false, correct or incorrect", rather than conceptions of the desirable which may, or may not, be congruent with perceived reality.

A further area of distinction is offered by Kluckhohn's (1951:432) statement that whereas values imply motivation, beliefs *per se* do not. As Kluckhohn (1951:432) states, "If you are commited

to act on a belief, then there is a value element involved".

Summary. In summary, beliefs are seen as existential propositions which are mainly cognitive in nature and which do not necessarily include a commitment to action, whereas idiographic values are conceptions of the desirable, involving both affective and cognitive components and are referenced to action.

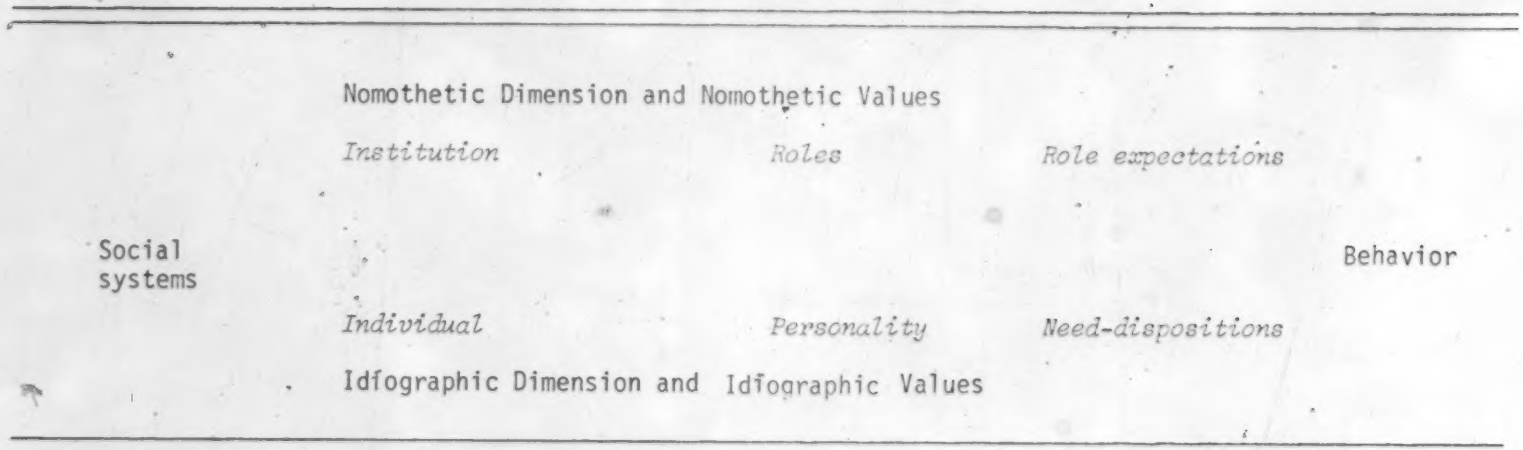
Attitudes are seen as predispositions to respond to a stimulus in a particular way that do not necessarily involve aspects of desirability. On the other hand, idiographic values are conceptualized as being primarily concerned with concepts of the desirable, and are not characterized by predispositions to respond to stimuli. In addition it may be noted that the motivational aspect of values which may be expected to be manifested in action is a further area of distinction. Whereas attitudes may be seen as predispositions towards objects, idiographic values may be seen as associated with action rather than only disposition.

The Location of Values

The fundamental difference between the two models discussed lies in the emphasis they place on the location of values. This difference may be illustrated in terms of the social system model proposed by Getzels and Guba (1957). This model is reproduced in Figure 1, where emphasis is placed on an institution, such as a school, as representative of the nomothetic dimension. The nomothetic model of values suggests that they are located within the nomothetic dimension of the social systems model, where they are manifested as

FIGURE 1

THE SOCIAL SYSTEMS MODEL ILLUSTRATING TWO ALTERNATE LOCATIONS OF VALUES



Adapted from Jacob W. Getzels and E.G. Guba, "Social Behavior and the Administrative Process" in The School Review 65:423-441. 1957.

normative standards, and statements which influence role expectations. In this sense they imply external direction to human behavior. It should be noted that although in this illustration an institution is taken as representative of the nomothetic dimension, any other social system may be substituted.

In contrast, the idiographic dimension locates values as a property of the individual where they influence need dispositions, implying cognitive, affective and motivational considerations. In addition idiographic values are taken to involve internalized normative standards, as opposed to external normative standards. Thus idiographic values imply internal direction to human behavior.

The implication involved in the selection of either of these two locations of values is significant, as is illustrated by the continuing dialogue between proponents of behaviorism and phenomenology who advance two fundamentally different models of man and views of reality.

Autonomous man. The idiographic model of values sees the individual as able to act freely, primarily accountable to himself and the prime object of study for the social sciences. Rogers (1964:125) as a proponent of this view, states: "The inner world of the individual appears to have more significant influence upon his behavior than does external environmental stimulus."

In an extreme sense the idiographic model of values and the implied nature of autonomous man may be interpreted as solipsism. However supporters of this model may be more accurately described as

subscribing to the phenomenological view of reality.

Greenfield (1974) and Silverman (1970:126-74) have commented on the implications of phenomenology, and hence the idiographic model of values, for the study of organizations. Greenfield (1974:5-14) observes that:

> The phenomenological view leads to the concept of organizations as "invented social reality" ... (and) ... to understand organizations we must understand what people within them think of as right and proper to do.

However, many eminent contributors to the literature do not support the phenomenological view. Skinner (1964:84) states:

> An adequate science of behavior must consider events taking place within the skin of the organism, not as physiological mediators of behavior, but as part of behavior itself. It can deal with these events without assuming that they have any special nature or must be known in any special way.

This leads to a consideration of the behaviorist and the natural systems view, which emphasises a nomothetic model of values.

Behaviorism. Skinner (1971:19-22) purports to have "dispossessed autonomous man" ... who ... "presumably controls himself with a built-in set of values." Behavior is seen as resulting from the action of external stimuli which impinge on individuals as positive or negative reinforcers of action. Peters (1974:219) comments that the Skinnerian view has "extended the meaning of reinforcement so that it includes every possible form of motivation", and in this statement he is not alone in voicing the opinion that autonomous man is by no way dispossessed. Nevertheless the thrust of the behaviorist argument is to direct attention to forces which act upon individuals, some of which may be represented by values in the nomothetic model.

Greenfield (1974) discusses the implications of nomothetic values in terms of a "natural systems" model. He considers that:

> In the systems view, the problem of society is the problem of order. Without society and its organizations, chaos and anarchy would result. The social order is seen as basically well working systems governed by universal values. (1974:9)

The natural systems view and the behaviorist view are essentially the same and suggest that students of values should direct their attention to determining the normative standards present in a given system.

Definitions of Values

A definition of values can be selected or created which emphasises either the idiographic or the normative model of values. Alternatively a definition can be sought that attempts to integrate elements of both models. The preference of the writer is for the latter choice as selection of a definition emphasising either of the two models, while tending to ignore the other, is seen as being a potentially less fruitful approach. However, it is recognized that a balanced definition is probably not possible. Given this constraint a definition which tends to the idiographic, while not ignoring the nomothetic is considered preferable.

An integrative definition should attempt to stress commonalities between the two models. The major area of substantial agreement would appear to be that values are normative. Kluckhohn (1951:390) observes that "general agreement is that values somehow have to do with normative ... propositions."

Definitions in the Literature

Given this area of agreement between the two models, the definition proposed by Jacob *et.al.* (1962:10) appears worthy of consideration:

> We propose to identify as "values" only the *normative standards by which human beings are influenced in their choice among the alternative courses of action which they perceive.*

Although this definition stresses "normative standards" that influence choice from perceived alternatives, it fails to specify whether these standards are those of an individual or a group or both. Elsewhere in their presentation, Jacob *et.al.* (1962:9) stress the phenomenological interpretation of values, indicating that their definition locates values as individual standards. Due to this strongly voiced bias, and to the fact that it is not articulated in the definition, an alternative definition appears desirable. Clyde Kluckhohn (1951:425) has offered the following:

> ... value may be defined as that aspect of motivation which is referable to standards, personal and cultural, that do not arise solely out of immediate tensions or immediate situations.

While specifically portraying values as idiographic (personal) and nomothetic (cultural) phenomena, this definition also stresses the idiographic model. This is especially notable in the reference to the type of situation in the definition. This appears to refer to the already noted distinction between attitudes and values. Further this definition contains a certain vagueness in the way that values are seen as "referable" to standards.

Clyde Kluckhohn (1951:395) has also advanced more detailed a definition which has been noted as gaining wide acceptance in

recent years (Williams, 1968:283):

> A value is a conception, explicit or implicit, distinctive of an individual or characteristic of a group, of the desirable which influences the selection from the available modes, means and ends of action.

In this case the aspect of the desirable, which appears instrinsic to the value concept, is given a degree of prominence and the possible idiographic and normative locations are identified. The reference to explicitness is evocative of the cognitive aspect mentioned in connection with individual values, but also is applicable to the nomothetic model, as group values may be reasonably conceived to be present in varying degrees of consciousness. Nevertheless this definition fails to specify the normative characteristics considered to be an important commonality between the two models identified.

Values defined. It has been noted that the three definitions considered have certain weaknesses that limit their utility in the integrative sense desired. Nonetheless, taken together the three definitions would appear to acknowledge the essence of the values concept as discussed in this chapter. An attempt to integrate the salient aspects of these three definitions was considered worthwhile. The following definition of values is therefore advanced:

> *Values are explicit and implicit conceptions of idiographic and nomothetic standards of the desirable that influence individuals and groups in their selection of courses of action from those perceived to be available in a given situation.*

It is stressed that this definition is a compound of the three previously quoted definitions offered by Jacob, Flink and Shuchman

and Clyde Kluckhohn. The compound definition is preferred by the writer over these definitions as it is considered to offer a more integrated conception of the idiographic and nomothetic modes of values than do the previously quoted definitions.

THE CONCEPT OF VALUE ORIENTATIONS

The concept of value orientations is well developed in the literature, especially in the writings of C. Kluckhohn (1951), Kluckhohn and Strodtbeck (1961) and F. Kluckhohn (1966).

Definitions of the Concept

C. Kluckhohn (1951:411) offered the following definition of a value orientation as:

> ... a general and organized conception, influencing behavior, of nature, of man's place in it, of man's relation to man, and of the desirable and the non-desirable as they relate to man-environment and interhuman relations. Such value orientations may be held by individuals, or, in the abstract typical form, by groups. Like values, they vary on a continuum from the explicit to the implicit.

This initial definition clearly identifies value orientations as general and organized conceptions embodying idiographic and nomothetic values, also suggesting a more implicit form in the case of value orientations held by groups. A typology of value orientations is also suggested by specification of areas of concern for which value orientations are suggested. It is stressed that the concept of value orientations appears to integrate the idiographic and nomothetic models previously discussed.

A later definition by F. Kluckhohn and Strodtbeck (1961:4)

further develops the concept:

> Value orientations are complex but definitely patterned (rank-ordered) principles, resulting from the transactional interplay of three analytically distinguishable elements of the evaluative process - the cognitive, the affective and the directive elements - which give order and direction to the ever-flowing stream of human acts and thought as these relate to the solution of "common human problems."

This definition expands the characteristics of organization by suggesting that value orientations are composed of patterned or rank-ordered principles. In addition it refines the areas of concern to which value orientations are referenced by specifying solutions to common problems.

Of particular interest are the elements that Kluckhohn and Strodtbeck distinguish as characteristic of value orientations. The cognitive and affective qualities have been previously recognized as characteristic of idiographic values, while the directive element has been associated with the nomothetic as well as the idiographic model. In this sense the concept of value orientations as defined by these writers offers a somewhat integrated conception of the idiographic and nomothetic models of values. In addition several particular characteristics of value orientations have been identified.

Characteristics of Value Orientations

Organization. A value orientation has been identified as an organized pattern. Kluckhohn and Strodtbeck (1961) specify this organization as a rank order patterning of preferences. In this way the value orientation concept provides order to a number of possible values.

This view is endorsed by Caudill and Scarr (1962:57).

Relationship to personality. Whereas the concept of values has been demonstrated to be distinguishable from attitudes and beliefs, the concept of value orientations provides for interaction between beliefs and values. C.Kluckhohn (1951:410), comments that a value orientation is "a statement comprising both existential and normative postulates." Given this interaction, value orientations appear capable of offering generalized and complex statements regarding the interaction of value and belief systems. Specific reference is also made in the Kluckhohn and Strodtbeck (1961: 4) definition to cognitive and affective elements, both of which are personality attributes.

Relationship to social systems. As defined value orientations have particular significance with relationship to social systems by being specifically concerned with "common human problems" (Kluckhohn and Strodtbeck, 1961:34) and "man-environment and interhuman relations" Kluckhohn (1951:411). The emphasis is on fundamental and common problems faced by all members of a culture, society or other social system.

Variation. The patterned configuration of value orientation allows for a wide degree of variation in the way in which individuals and groups within a social system conceive the possible solutions to the fundamental problems that they face in a given social system. This allows for a more detailed and complex portrayal of idiographic and nomothetic conceptions of the desirable than does a simple description

or inventory of values.

Kluckhohn and Strodtbeck (1961:8) are critical of analyses that centre on "basic values" and do not allow simultaneous examination of variations in values that may be expected in any human collectivity.

In essence variations in value orientation allows a considerably more holistic investigation of behavior in human groups than do simple and more traditional formulations.

SUMMARY

Two models of values were developed from the literature and comments were made as to emphasis contained in each. The concept of values was defined in a manner that avoided over-emphasis of one particular model of values. The concept of value orientation was defined and characteristics were identified.

CHAPTER 3

REVIEW OF PERTINENT RESEARCH IN EDUCATIONAL ADMINISTRATION

This chapter completes the consideration of the first subordinate problem as outlined in Chapter 1. Attention is given to reported research investigating values and value orientations in school organizations. The instruments employed in this research and their underlying theoretical bases are reviewed. The Chapter concludes with the selection of a research methodology on which the construction of the instrument to be developed is to be based.

A survey of the pertinent literature indicates that the majority of the research concerned with the concept of values which has been conducted and reported within the discipline of Educational Administration has utilized either the Differential Values Inventory, or the Kluckhohn Schedule. Each instrument, and a sample of the major research conducted with it, will be considered in turn.

THE DIFFERENTIAL VALUES INVENTORY

Theoretical Base

The Differential Values Inventory was developed by Prince (1957a, 1957b) to measure personal values along an emergent-traditional continuum as proposed by Spindler (1955). Spindler proposed that personal values are changing in contemporary American society, older members tending to subscribe to *traditional* values while younger members are seen as tending to subscribe to *emergent* values

as described in Table 1. Spindler (1963b:133) reports that these value classifications were derived as the result of a content analysis of 24 completed sentence stems and one titled paragraph written by a sample of college students.

In applying this theory to educational organizations, Spindler (1963b) hypothesised that these values would be distributed along a continuum with older and more senior individuals and groups in educational organizations subscribing to more traditional values than younger, subordinate individuals and groups.

The Instrument

Prince (1957a) developed the Differential Values Inventory (DVI) to investigate Spindler's hypothesis. The instrument consists of sixty-four forced choice items based on the eight value positions suggested by Spindler, and reproduced in Table 1. In each item, respondents are presented with two statements, each of which represents one of the eight value positions. They are asked to indicate personal preference for one of the two statements. This preference is elicited by requesting the respondent to make the response that he feels corresponds with what he "ought" to do. Equal numerical values are allocated to the items to produce sub-scale and total scale scores such that the higher the score, the more traditional are the values indicated by the respondents.

Reported Research

Prince. Utilizing the instrument which he developed, Prince (1957a, 1957b) investigated the nature of teacher and principal values, and

TABLE 1

TRADITIONAL AND EMERGENT VALUES AS PROPOSED BY SPINDLER

TRADITIONAL VALUES	EMERGENT VALUES
Puritan morality. Respectability, thrift, self-denial, sexual constraint.	*Sociability.* One should like people and get along well with them. Suspicion of solitary activities is characteristic.
Work-Success ethic. Successful people worked hard to become so. Anyone can get to the top if he tries hard enough. So people who are not successful are lazy, or stupid, or both.	*Relativistic moral attitude.* Absolutes in right and wrong are questionable. Morality is what the group thinks is right. Shame, rather than guilt is appropriate.
Inidividualism. The individual is sacred, and always more important than the group. In one extreme form, the value sanctions egocentricity, expediency, and disregard for other people's rights. In its healthier form the value sanctions independence and originality.	*Consideration for others.* Everything one does should be done with regard for others and their feelings. Tolerance for the other person's point of view and behaviors is regarded as desirable, so long as harmony of the group is not disrupted.
Achievement orientation. Success is a constant goal. Coupled with the work-success ethic, this value keeps people moving and tense.	*Hedonistic, present-time orientation.* No one can tell what the future will hold, therefore, one should enjoy the present - but within the limits of the well-rounded balanced personality and group.
Future-time orientation. The future, not the past nor even the present, is most important. Time is valuable and cannot be wasted. Present needs must be denied for satisfaction to be gained in the future.	*Conformity to the group.* Implied in the other emergent values. Everything is relative to the group. Group harmony is the ultimate goal. Leadership consists of group-machinery lubrication.

Adapted from George D. Spindler, "Education in a Transforming American Culture" in George D. Spindler (ed.) Education and Culture: 132-147. New York: Holt, Rinehart and Winston. 1963. Originally published in the Harvard Educational Review 25:145-156. 1955.

the effect of value congruence between teacher-administrator relationships. Prince reported that older teachers and principals exhibited more traditional values than their younger colleagues, and that congruence between teacher and administrator values appeared to be related to confidence in leadership.

McPhee. The DVI was also utilized by McPhee (1959) to determine relationships between individual values and "educational viewpoints." In this study respondents scored with emergent values appeared to have more modern educational viewpoints than did those scored with more traditional values.

Lupini. Further application of this instrument was provided by Lupini (1965) in relating values to school climate. This study found a relationship between values as measured by the DVI and school climate as measured by the Organizational Climate Description Questionnaire, (Halpin and Croft, 1963). In summary, Lupini reported that in schools where teachers and principals were identified as having emergent values, school climate tended to be open, while school climate tended to be closed in those schools where teachers and principals were credited with traditional values on the DVI. Although Lupini's results indicated a relationship between personnel values and school climate, no relationship was found between differential values among staff members and school climate.

Abbott. The DVI and a confidence in leadership scale was used by Abbott (1966) to investigate superintendent-board member relationships. This study confirmed a relationship between congruent values and

confidence leadership. However, Abbott reported more emergent values for r than younger superintendents.

Discussion hough apparently designed to investigate idiographic values, the tructure of the Differential Values Inventory suggests th it is individual perceptions of nomothetic values that are being measured. This is particularly evident in the instruction that requests respondents to select the response that they feel they "ought" to select. This suggests a degree of external direction to the solicited response. In light of the Behaviorist-Phenomenology dichotomy, it is suggested that in reality this instrument taps values as elements of societal systems rather than as a part of idiographic reality. While this judgement may be extreme; it does indicate that the type of values being measured is open to question.

Furthermore, the instrument does not appear to be directly referenced to educational organizations, the questions asked of respondents being primarily concerned with behavior in general social situations, rather than schools. The research conducted with the DVI indicates this lack of specificity, as in each case the researchers were required to employ other measures in order to relate DVI scores to school organizations.

The lack of agreement in the findings reported by these researchers raises some question as to validity. In particular the DVI, when utilized by Abbott (1966) produced results that are contrary to those predicted by the original theory of Spindler on which the instrument was based. Such findings are not entirely unexpected. Spindler (1963b:136) states that no basic cultural change involving

a shift in values is "actually linear", although his hypothesis treats emergent and traditional values as if this were so. The situation is further confounded by Prince's method of scoring which arbitrarily selects a midpoint on the derived scale to represent the boundary between emergent and traditional values. There appears little solid ground for such an assumption..

In summary, the questionable validity of the DVI, its lack of direct relevance to the organizational context and its apparent reliance on respondent perceptions of societal norms, combine to suggest that it is not appropriate for viable values research in educational administration. In the context of the previous discussion of the theoretical foundations for the study of values, it would appear that this instrument treats the subject of values in an unrealistic and simplified manner. Rigid forced choice items and inflexible and arbitrary scoring do not seem appropriate to the complex universe of values. In addition the DVI makes no pretence to measure value orientations as this concept is defined in the literature.

THE KLUCKHOHN SCHEDULE

The instrument developed by Kluckhohn and Strodtbeck (1961) for use in the Rimrock study was created to measure differences and similarities of value orientations in five different cultures.

Theoretical Base

Kluckhohn and Strodtbeck (1961) emphasised the "common human problems" theme that has been identified in the definitions of value

orientations given previously. These common problems are seen as defining possible value orientations in any society. Kluckhohn and Strodtbeck (1961:341) envisaged value orientations as descriptive of possible solutions to these common problems and developed their conceptual framework on the basis of three major assumptions:

> (1) There is a limited number of common human problems for which all people at all times must find formulae. (2) While variations in these formulae certainly exist, they are neither limitless nor random but are, instead, variations within a limited range of possible solutions. (3) All variants of recurring solutions are present in all cultures at all times, but receive, from one society to another, or one subculture to another, varying degrees of emphasis.

Kluckhohn and Strodtbeck (1961:11) tentatively identified five possible common human problems. Stated as questions, these problems are:

(1) What is the character of innate human nature? (Human Nature orientation.)

(2) What is the relation of man to nature (and super-nature)? (Man-Nature orientation.)

(3) What is the temporal focus of human life? (Time orientation.)

(4) What is the modality of human activity? (Activity orientation.)

(5) What is the modality of man's relationship to other men? (Relational orientation.)

Each of the identified problems provides a single value orientation area, and for all but one orientation area, Kluckhohn and Strodtbeck proposed three possible value orientation positions as summarized in Table 2.

The given positions for the four fully developed orientations are described by Gue (1971:21-2) as follows:

TABLE 2

KLUCKHOHN'S VALUE ORIENTATION AREAS AND RANGE OF VALUE ORIENTATION POSITIONS IN EACH AREA

Value Orientation Area.	Range of Possible Value Orientation Positions.		
Relational	Lineality	Collaterality	Individualism.
Time	Past	Present	Future
Man-Nature	Subject-to-Nature	Harmony-with-Nature	Mastery-over-Nature
Activity	Being	(1)	Doing
Human Nature	Evil	Neutral - Mixture of good and evil.	Good
	Mutable-Immutable	Mutable-Immutable	Mutable-Immutable

Note: Since each of the orientations is considered to be independently variable, the arrangement in columns of sets of orientations is only accidental. Any orientation can appear in any column.

(1) This position was later developed as "Being-in-Becoming", but was not part of the original Kluckhohn and Strodtbeck study.

In the Relational area, *Lineality* stresses the primacy of group goals continuous through time, as in hereditary and kinship structures such as aristocracies. *Collaterality* emphasises the primacy of the goals of the laterally-extended immediate group; discontinuity in group allegiance is possible. *Individualism* centers on the process of individual goal-setting with little reference to lineal or collateral groups. Concepts in the Time area appear self-explanatory to those cultures which have a linear concept of time.

In the Man-Nature area, *Subject-to-Nature* implies fatalism. *Harmony-with-Nature* implies no real separation of man, nature and super-nature, (the Creator, if you wish). A concept of wholeness springs from this orientation. *Mastery-over-Nature* describes the view that natural forces of all kinds are to be overcome and put to the use of mankind.

In the Activity area, *Being* is an orientation favouring the spontaneous expression of that which is conceived to be "given" in the personality; it is not license. A *Doing* orientation focuses on activity measurable in terms of standards outside the person himself.

The fifth orientation (Human Nature) is not developed by Kluckhohn and Strodtbeck (1961:77).

The Instrument

Within this conceptual framework, a twenty-two item instrument was initially developed to measure individual subscription to determined value orientations. Each item consisted of a written exposition of a typical life situation, followed by three (or two in the case of the Activity orientation) possible solutions. Respondents were requested to rank order their preference for each of the given solutions by indicating which of the given solutions they thought was best. In the original form, the instrument was successfully administered, as reported by Kluckhohn and Strodtbeck (1961), and yielded important anthropological data of a greatly more complex nature than had previously been obtained, (Bryans, 1971:36).

This successful initial application indicated the feasibility of both the Kluckhohn theory and the Kluckhohn Schedule, both of which quickly gained use in educational research.

Reported Research

Caudill and Scarr (1962) employed the instrument to investigate value orientations of Japanese students and their parents. This study produced refinements to the instrument and introduced the concept of "distance" in the analysis of results. This concept has been used by many subsequent researchers, and is described later in this report.

Kitchen (1966) employed the instrument, after some modification, to measure the value orientations of a large sample of Newfoundland students. Bryans (1971) and Anderson (1972) further investigated student-parent value orientations in Western Canada through this instrument and Gue (1967) examined the value orientations of Indian parents and students as well as those of local teachers and administrators in Northern Alberta.

Of particular interest is the study by Seger (1965) which employed the Kluckhohn Schedule in an investigation of role expectation in a teacher-trustee sample in the North West United States. Differences in role expectations held for the Superintendents by the two samples were reported as being related to differences in value orientation as measured by the instrument. This study is of interest as it suggests the applicability of both the Kluckhohn theory and methodology to human collectivities other than those

classified as cultures, and particularly to educational organizations.

Discussion

Unlike the DVI the Kluckhohn Schedule appears rarely to have been administered in the same form in differing studies. This characteristic is inherent in the Kluckhohn technique which stresses applicability of the instrument to the target group. At all times it is the Kluckhohn theory and technique that appears to be of primary importance. In this context, the apparent validity of the methodology does not appear suspect, findings conforming with the theoretical framework proposed by Kluckhohn. Furthermore, the technique presents several attractive aspects, specially in the areas of eliciting respondent preference and availability of choice. By requesting respondents to rank order the given solutions according to what they feel is the "best way" the instrument asks for responses that are congruent with the concept of value orientations as defined. Respondents are allowed to equally rank solutions if they see fit, thus choices are not enforced, except insofar as respondents are asked to make some response to each item. A further advantage of the Schedule is that individual value orientations are tapped in an indirect manner. Respondents are presented with situations that do not directly affect them but are relevant to their experience, and are asked to evaluate the solutions available to the people described in the given problem. This element of *projectivity* seems most appropriate, offering a possibility of minimizing personal defensiveness and allowing the complex idiographic and nomothetic nature of

values to interact in a loosely structured problem-solving situation.

However, certain problems are also evident in the Schedule. In particular, the analysis of the data generated poses severe problems. Various methodologies have been adapted or invented by researchers employing the instrument in an attempt to deal with this problem which stems from the ordinal nature of the data generated and the requirement that both dominant and variant value orientation patterns must be considered simultaneously.

A further problem may be identified in the length of the Schedule. Each item requires comprehension, consideration and evaluation, and by the very nature of the item construction and the theoretical framework , this does not lend itself to impulse answers. Thus, serious consideration is expected for each of the twenty-two items which requires a substantial investment of respondent time and concentration. This difficulty is compounded in later variants of the Schedule, as developed by Gue (1966), which increased the number of items.

One final difficulty may be recognised in the field of educational administration research, that being the applicability of the instrument in the educational context. Both the theoretical framework and the initial instrument were created to investigate dominant and variant value orientations in a cultural context. Only in one research study has the instrument been employed in an organizational context, (Seger, 1965) and in this case additional data were required for useful analysis. All other studies based on the

Kluckhohn Schedule in educational administration research have displayed a strong cultural or multi-cultural component.

Nevertheless, the structure of the original theory and the methodology employed in the Kluckhohn Schedule display potential for the development of the proposed instrument. In particular, the intrinsic usefulness of the theory for investigating dominant and variant patterns of value orientations offers great promise. In addition, the instrument's property of projectivity and its clear relevance to individual values is exciting, if the handicaps of length and analysis can be minimized. It would appear that adaptation of the original theoretical framework to an organizational context, and subsequent development of a new schedule which embodies the precepts of the original, offers promise for the present problem.

MEASUREMENT OF VALUE ORIENTATIONS IN SCHOOL ORGANIZATIONS

Review of the Problem

The central research problem to be addressed by this study was stated as being:

> To devise and test a research instrument to measure selected value orientations of professional educators and administrators involved in the operation of school organizations.

The initial subordinate problem was seen as the selection of an appropriate methodology to be employed in the development of the proposed instrument.

Appropriate Methodology

In this context "appropriate methodology" is taken to mean a

set of procedures which will facilitate the valid development of the proposed instrument. Three criteria are seen as defining appropriate methodology. These are:

1. The methodology should provide for the measurement of value orientations as distinct from values.
2. The methodology should produce an instrument that will be directly related to activities in school organizations.
3. The methodology should be based on established theory and proven technique.

Neither of the two instruments which have been reviewed in this chapter meet all these criteria. However, the Kluckhohn Schedule appears to meet two of the three, not being directly related to the operation of school organizations. Consequently the Kluckhohn theory of value orientations is adopted as a means of meeting the first criterion. The Kluckhohn technique of measuring value orientations is adopted as a means of meeting the third criterion. The second criterion will be met by the development of a conceptual framework and a specific body of instrument items that will be directly related to the operation of school organizations.

SUMMARY

This chapter offered a description of the two major instruments that have been used in values research in the field of educational administration. The central problem to be addressed in this report was restated and criteria established for appropriate methodology by which this problem could be solved. The Kluckhohn theory and technique for the measurement of value orientations was adopted for the development of the proposed instrument.

CHAPTER 4

THE CONCEPTUAL FRAMEWORK AND THE MEASUREMENT TECHNIQUE

This chapter describes the adaptation of the Kluckhohn theory of value orientations and the Kluckhohn method of eliciting value orientations to the study of value orientations in school organizations. The chapter is organized into two major sections. The first section considers the Kluckhohn theory of value orientations, applies this theory to organizations, and develops a conceptual framework for the study of value orientations in school organizations. This framework is developed in accordance with the procedures originally employed in the development of the conceptual scheme employed by Kluckhohn and Strodtbeck (1961). The second major section provides a description of the original Kluckhohn schedule developed to measure the value orientations defined by the Kluckhohn and Strodtbeck conceptual scheme, and describes the format and structure of the instrument that is developed in later chapters of this study. The chapter concludes with comments on procedures to be adopted to provide estimates of reliability and validity for the instrument to be developed.

ADAPTATION OF THE KLUCKHOHN THEORY TO THE INVESTIGATION OF VALUE ORIENTATIONS IN SCHOOL ORGANIZATIONS

The Applicability of the Kluckhohn Theory to Organizations

In order to utilize the Kluckhohn theory for the development of an instrument directly relevant to school organization, it is necessary to establish the applicability of the basic theory to organizations. Grounds for the relevance of the Kluckhohn theory may be found in the societal nature of organizations.

The societal nature of organizations. Although there is less than substantial agreement as to a definition of organizations, (Silverman 1970:8-23) most writers agree that organizations are essentially human collectivities charged with attaining specific goals, (Etzioni, 1964:3). This recognition of organizations as *social units*, allows for the extension of the Kluckhohn theory from cultures associated with macro-societies to cultures associated with micro-societies, such as organizations. Organizational cultures are recognized by Sergiovanni and Carver (1974:24) and the applicability of the Kluckhohn theory appears consistent with the Parsonian view of organizations as *"societies writ small"*, (Silverman, 1970:55).

However, this view is not universally held, being particularly at odds with the views of "mechanistic" writers such as Fayol (1949) and Taylor (1911). It is therefore necessary to make the major assumption that *organizations are social structures, differentiated*

from societies per se only by factors of size and purpose. This assumption allows application of the Kluckhohn theory to organizations and is fundamental for the subsequent development of the proposed instrument.

Development of a Conceptual Framework for the Identification of Value Orientations in School Organizations

In order to develop a conceptual framework, it is necessary to make three further assumptions. These assumptions follow closely the initial assumptions made by Kluckhohn and Strodtbeck (1961:11), but are concerned specifically with organizations.

First, it is assumed that *there is a limited number of common problems for which all organizational members must find some solution.*

Secondly, it is assumed that *solutions to these problems are neither limitless nor random but are variable within a limited range.*

Thirdly, it is assumed that *all solutions are possible in all organizations, but are differentially preferred by organizational members.*

Identification of common problems faced by organizational members yields the *value orientation areas* which are possible within an organization. Identification of the possible solutions to these problems provides the *value orientation positions* available and the pattern of preference for these positions provides the *value orientations* of respondents.

The second assumption, that those positions or "solutions" are limited, embodies the directive element of value orientations stressed

by Kluckhohn and Strodtbeck (1961:6) which illustrates the nomothetic component of value orientations. The assumption that individuals will choose between the possible positions reflects the idiographic value component, associated with value orientations.

Additional Aspects of the Kluckhohn Theory

The application of the Kluckhohn theory requires that common problems be identified and a value orientation area related to each problem defined. A limited number of possible solutions to the identified common problems are then specified so that a value orientation may be presented by an organized pattern of preference among the specific positions within a given value orientation area. If equal preferences are allowed among three value orientation positions, then there are thirteen possible value orientation patterns that may be derived in each value orientation area. The Kluckhohn theory predicts that these patterns will be preferred to differing degrees by members of a particular social group.

Dominant and variant patterns. The Kluckhohn theory emphasises that differing preferences will produce both dominant and variant value orientation patterns in all societies. Kluckhohn and Strodtbeck (1961: 342) observe:

> ... the value orientation systems of societies (organizations) are not to be thought of as unitary systems of dominant value only. Persistently they contain *permitted* and *required* variant value orientations ... which differ from the dominant value orientations .... the argument of the variation theory is that much of what has been described as idiosyncratic departures from *dominant* values is really well-ordered variant behavior.

This aspect of the Kluckhohn theory goes beyond the expectation of various patterns of value orientations by emphasising that variant patterns are normal and required and should in no way be visualized as deviant. Following the assumptions made to adapt the Kluckhohn theory to organizations, then dominant and variant value orientations are expected to be present in organizations.

Societal differentiation. The Kluckhohn theory indicates two types of societal differentiation which will be associated with differences in value orientations. In the first case, reference is made to sub-group differentiation. Kluckhohn and Strodtbeck (1961:242) note that "regional, ethnic, class or other fairly well marked social units" may be expected to yield differing value orientation patterns. Secondly, the Kluckhohn theory identifies behavior sphere differentiations. In this case Kluckhohn and Strodtbeck (1961:342) state that "the broad categories of activities which are essential to the functioning of any society" may be expected to yield differing value orientation patterns.

In the context of school organizations, sub-group differentiation may be expected to yield differences between value orientations of organizational members with differing cultural backgrounds, from differing social classes, or from differing geographical regions. Specifically, value orientation differences may be expected between rural and urban teachers and administrators, Canadian and non-Canadian teachers and administrators, and possibly male and female teachers and administrators.

Differences in the value orientations of school members who are differentiated by behavior sphere activities may be expected. However, this basis for difference is not developed to any great degree by Kluckhohn and Strodtbeck, reference only being made to such general and pervasive behavior spheres as economic-technological, religious, intellectual-aesthetic and recreational. These areas of activity may not reasonably be considered to identify specific groups within school organizations. Nevertheless, the essence of behavior sphere differnces relates to activity within a society. In the context of organizations, differential activity would appear to be related to roles. In order to operationalize the behavior sphere basis of differentiation, therefore, the assumption is made that organizational behavior spheres are manifest in the formal roles of organizational members. On the basis of this assumption, differences in value orientations in school organizations may be expected between teachers and administrators.

Value Orientations in School Organizations

Three problems have been tentatively identified as being of importance to all professional members of school organizations. It is stressed that these problems are not considered at this time as being the only possible ones faced by organizational members. Furthermore, it should be noted that while these problems may not be the *most* important common problems, they are considered to be suitable for the development of an initial framework. These

problems are stated as questions in Table 3, together with the value orientation areas which they define.

Dispositional. This value orientation area is concerned with inter-personal relationships among members of organizations. It is similar to the relational orientation area defined by Kluckhohn and Strodtbeck (1961:17-9) which is concerned with the "common human problem" of man's relationship to other men.

Dispositional was chosen as a title for this dimension to emphasise the disposition of organizational members toward the authority of other organizational members. This value orientation area specifies *Individuality*, *Laterality* and *Lineality* as the possible value orientation positions. Individuality characterizes a disposition towards acceptance of the authority of individuals; Laterality recognises the authority of a group; and Lineality reflects a disposition towards the acceptance of the authority of a hierarchical position.

More detailed descriptions of the three positions within this value orientations area are given later in the study.

TABLE 3

COMMON ORGANIZATIONAL PROBLEMS AND CORRESPONDING VALUE ORIENTATION AREAS

Problem	Value
1. What is the relationship of organization members to other members?	Dispositional.
2. What is the relationship of organizational members to the organization?	Relational
3. How is the task of the organization best accomplished?	Focal.

Relational. Although this title was given by Kluckhohn and Strodtbeck (1961) to their value orientation area which dealt with the problem of interpersonal relationships, and which is similar to the Dispositional dimension outlined above, the term Relational as used in this study has a different meaning. For the purposes of the instrument to be developed in this study, the Relational value orientation area is concerned with the relationship of organizational members to the organization. The three possible value orientation positions that are specified for this orientation are *Subjectivity*, *Mediationary*, and *Mastery*.

In terms of the Kluckhohn theory, the present Relational orientation is to some degree similar to Kluckhohn's Man-Nature orientation. If a comparison were to be made, organizations would be substituted for Nature and the harmony position would be replaced by the *Mediationary* position. Even so, such a substitution would provide only a crude approximation of the present Relational orientation to the original Man-Nature postulate.

The positions specified by this value orientation area are developed and defined later in this chapter.

Focal. This value orientation area considers the problem of how the goals of the school organization may be best achieved. It does not directly consider the question of what the organizational goals are or should be, but concentrates on the mode of operation that might be best adopted to achieve whatever the goals are taken to be. As the proposed instrument is concerned with value orientations in school

organizations, this orientation area may be conceived as being primarily concerned with formal relationships with students. The three value orientation positions that are specified are *Task*, *Pragmatism* and *Process*.

These positions are further discussed below.

PROPOSED VALUE ORIENTATION POSITIONS IN THE PRESENT CONCEPTUAL FRAMEWORK

In this section the three value orientation positions that have been proposed for each of the determined value orientation areas are described with reference to the pertinent literature on which they are based.

Dispositional Value Orientation Area

A consideration of the nature of the relationships between organizational members would appear to involve aspects of supervision, authority and leadership. The writings of Argyris (1964) and McGregor (1966) which are concerned with supervisory assumptions, and the typology of power bases advanced by French and Raven (1960), provide a theoretical base for the three specified positions.

Individuality. This position is conceived as embodying individual autonomy and with elements of self-actualization as expounded by Argyris (1964) and Maslow (1954). In particular, individuality stresses organizational members as self-motivating, willing to accept responsibility, and self-reliant, not being heavily dependent upon their peer group and requiring little supervisory direction.

In addition the individuality position implies authority through legitimate, referent or expert power bases as identified by French and Raven (1960:612), credited to the individual.

Laterality. In this position emphasis is placed on a peer group as being a source of authority and leadership. The concept of professionalism as discussed by Corwin (1965,1970) and his identification of the characteristic of loyalty to a professional group is applicable in this position. Peer groups are credited with legitimate, referent and expert power in the French and Raven (1960) typology and are seen as a source of authority and leadership by members of a school organization.

Lineality. Whereas the previous positions assigned responsibility, authority and leadership to individuals and groups, this position emphasises the authority of position. Authority and responsibility are seen as being credited to an office in the Weberian Bureaucratic tradition, (Weber,1946. Albrow, 1970). Although this position reflects an element of individualism, in essence it is the antithesis of Individuality as developed above. Lineality is seen as implying management assumptions as embodied in McGregor's theory X (1966). In the French and Raven (1960) typology predominant power bases would appear to be legitimate, coercive and referent.

In summary the major factors of delimitation between the positions within the Dispositional orientation area are seen as being perceived location of responsibility and authority within the school organization. This is used as the basis for a differentiation

TABLE 4

DISPOSITIONAL VALUE ORIENTATION POSITIONS

INDIVIDUALITY	LATERALITY	LINEALITY
The *individual* organization member is recognised as responsible and as a source of authority.	The *peer group* is seen as a source of authority and is collectively charged with responsibility.	Organizational *officers* are recognised as being responsible and are credited with authority due to their office.
Self-reliance is characteristic.	*Group loyalty* is characteristic.	*Acceptance of formal authority* is characteristic.

of the orientation positions in Table 4.

Relational Value Orientation Area

This orientation is concerned with how organizational members perceive the organization, the relationship under investigation being that between members and the organization. Similarly to the Dispositional orientation, this Relational orientation is partly reflected in the writings of Argyris (1964) and McGregor (1966), that are concerned with the interface between individuals and organizations. The System-Phenomenology dichotomy proposed by Greenfield (1974), which has been previously discussed, is seen as providing two opposing solution positions of Subjectivity and Mastery. The insertion of a Mediationary alternative provides the third position which embodies some elements of both extremes.

Subjectivity. This position denotes a mechanistic perception of organizations, with members being seen as subject to the organization, which in turn is seen as an enduring rational entity. This position embodies Greenfield's (1974:3a) description of organizations as being constructions serving societal needs. In essence, this position sees organizational members as relatively powerless in their relationship to the organization. Emphasis is placed on the maintenance of order and control through rules and structure. Argyris' (1964,1957) description of the traditionally inflexible and incompatible nature of individuals and organizations appears to capture a major aspect of this position.

Mastery: This position may be seen as the antithesis of Subjectivity embodying a conception of organizations as being designed to serve individuals, rather than societies. This position supposes that organizational members are able to control the activities and the functioning of their organizations. The goals of the organization are mainly determined by those individuals in a position to exercise control. Emphasis is on the people rather than the structure of an organization. Greenfield (1974) identifies this concept of the individual-organizational interface as being characteristic of a phenomenological viewpoint. White's (1974) description of individuals competing for organizational resources appears to embody a mastery concept of the organizational-individual relationship.

Mediationary. This position contains elements of Mastery and Subjectivity. The implicit fatalism of the Subjectivity position is minimized, while the element of control embodied in the Mastery position is recognised but not subscribed to completely. An element of pragmatism is involved, insofar as some control is possible at some times. Emphasis is placed on compromise in the relationship between members and the organization.

The Relational orientation positions are summarized in Table 5, with emphasis on the activity of organizational members as an indicator of the possible positions. Thus Subjectivity is seen as essentially obedience to the organization, Mediation is seen as a compromise between members and the organization, and Mastery is seen as attempted control of the organization by its members.

TABLE 5

RELATIONAL VALUE ORIENTATION
POSITIONS

SUBJECTIVITY	MEDIATIONARY	MASTERY
Actors see their position *vis a vis* the organization as being relatively powerless.	Control by and domination of the organization are both possible, depending upon circumstances.	The organization is seen as a construct to be utilized by members.
Obedience is stressed.	*Compromise* is stressed.	*Control* is stressed.

Focal Value Orientation Area

Whereas the Dispositional and Relational value orientation areas are concerned with relationships, the Focal dimension is primarily concerned with activity within organizations. This orientation area possesses a greater degree of specificity in the present conceptualization than do the other two dimensions, for while the concepts of Disposition towards other members of organizations, and Relationship to an organization, may be seen as applicable to any organization, with little modification of the positions, notions of organizational activity must be conditioned by the type of activity typical to a given organization. In the present case the given organization is that of the school, and the modal activity may be expected to be concerned with students.

A generic term which has found usage within organizational theory to describe organizational activity is *technology*. Champion (1975:248) defines technology as "methods, processes, devices, knowledge and facilities which are used in the completion of work tasks in an organization." In essence it is technology within school organizations that is the main concern of the focal value orientation area.

A model for the conceptualization of technology has been offered by Perrow (1967). In this model two dimensions are suggested for the classification of the "raw material" on which the organization and its members perform work. One dimension is concerned with the number of exceptional cases encountered by the organization members while performing work on the raw material. The second dimension is concerned with the degree to which organizational members

are required to seek solutions to the difficulties of working with the raw materials. This second dimension is reflected in the amount of "search behavior" required to analyse the problems that may be perceived in working with the raw material. In the case of school organizations the raw material may be conceived of as the students, and the degree of search behavior and number of exception cases encountered may be seen as a function of the perceptions of organizational members. The two dimensions proposed by Perrow are influential in describing the three value orientation positions specified for the Focal value orientation area.

Task. In terms of the Perrow model the task position is defined when an organization member perceives few exceptional cases among the students and a need for little search behavior. Emphasis is placed on the achievement of school goals through standardization of activities. Societal needs may be seen as taking precedence over student needs and teaching activities may be easily broken down into discrete units. To some degree this position may be seen as describing a conception of a school organization that is similar to Etzioni's (1961) coercive type organization.

Pragmatism. This position describes a situation where the students in a school are perceived as presenting many exceptional cases which demand considerable search behavior in order to be dealt with successfully. In essence the goals of the school and the methods by which they may be attained are seen as ill-defined, complex and confusing. Activity is determined by convenience, the criteria for

which may change from time to time. Less commitment to the goals of the organization may be expected and member activity will be concentrated on self-satisfaction rather than organizational or student satisfaction. Concern with aspects of the position held by an organizational member, such as salary and tenure, may be expected to be more important than the activity required in that position. Pragmatism is seen as being consistent with the views of a member of a utilitarian organization in the Etzioni (1961) typology.

Process. This position is seen as resulting from students being seen as complex but analysable raw materials. Many exceptional cases are expected, but the amount of search behavior required to solve problems is perceived as being manageable. Emphasis is placed on the individualization of organizational activity. Students are seen as unique individuals and there is concern for the quality of the teacher-student relationship.

Table 6 provides a summary of the positions within the Focal value orientation area with member concern and member activity being employed as the major mode of differentiation.

Summary

The three proposed value orientation areas and the possible positions specified for each are summarized in Table 7.

TABLE 6

FOCAL VALUE ORIENTATION POSITIONS

TASK	PRAGMATISM	PROCESS
Member activity concentrates on rationalizing procedures and stresses conformity of problems.	Member activity is self-satisfying.	Attainment of goals is seen as a complex problem, best solved by personal attention.
Standardization is characteristic.	*Convenience* is characteristic.	*Individualization* is characteristic.

TABLE 7

THE THREE POSTULATED ORGANIZATIONAL VALUE ORIENTATIONS AND THE RANGE OF POSSIBLE VALUE ORIENTATION POSITIONS IN EACH

Value Orientation Area.	Range of possible Value Orientation Positions.		
Dispositional	Individualism	Laterality	Lineality
Relational	Subjectivity	Mediationary	Mastery
Focal	Task	Pragmatism	Process

N.B. As the range of possible positions is independently variable along each dimension, there is no suggested correlation between positions within different orientations.

ADAPTATION OF THE KLUCKHOHN TECHNIQUE FOR ELICITING VALUE ORIENTATIONS

The Original Kluckhohn Instrument

Item format. When faced with the problem of devising an instrument with which to operationalize and test the Theory of Dominant and Variant Value Orientations, Kluckhohn and Strodtbeck (1961:345) identified four specific problems:

> (1) the need to find items which would - moderately well at least - test the different orientations one by one; (2) the search for both the items and phrasing of them which would have a more or less equal degree of significance and meaning in each of the cultures; (3) the control of the distorting effects of defensive reactions and particularized - even idiosyncratic - kinds of individual life experiences; (4) the creation of a means of providing conclusions about the nature of basic values which would allow for the generation of testable hypotheses about the patterns of behavior other than those which are used for the formulation of the value systems themselves.

Kluckhohn and Strodtbeck (1961:345) attempted to meet these criteria by the adoption of what they describe as "the highly generalized life situation type of item." This approach produced a schedule of twenty-two items, each of which is similar to the item reproduced in Table 8.

Five characteristics may be identified in all of the items:

1) Each items presents a highly generalized situation which is within the common experience of the target group.

2) Each item presents a number of plausible and rational alternative courses of action, resulting from the situation presented.

3) Each item presents an opportunity for respondents to show prefer-

TABLE 8

EXAMPLE OF KLUCKHOHN SCHEDULE : ITEM 2

Relational: Item R1

2. Well Arrangements

When a community has to make arrangement for water, such as drill a well, there are three different ways they can decide to arrange things like location and who is going to do the work.

A (Lin) There are some communities where it is mainly the older or recognized leaders of the important families who decide the plans. Everyone usually accepts what they say without much discussion since they are the ones who have had the most experience.

B (Coll) There are some communities where most people in the group have a part in making the plans. Lots of different people talk, but nothing is done until *almost* everyone comes to agree as to what is best to be done.

C (Ind) There are some communities where everyone holds to his own opinion, and they decide the matter by vote. They do what the largest number want even though there are still a very great many people who disagree and object to the action.

Which way do you think is usually the best in such cases?

Which of the other two ways do you think is better?

Which way of all three ways do you think most other people in _____ would usually think is best?

Taken from F.R. Kluckhohn and F.L. Strodtbeck, Variations in Value Orientations. Evanston, Ill.: Row Peterson. 1961 p.80

ences for all of the offered alternatives.

4) Each item contains an element of projectivity which places the respondent in an observing rather than an involved position when responding.

5) Each item is identified by a short title.

These five characteristics are illustrated in Table 8. This repoduced item deals with a situation common to all small communities within the target group in the original Five Cultures Study, namely provision of a communal water supply. Specifically, the item focuses on how a decision will be made to facilitate the provision of a water supply. Three clear alternatives of action are presented, and the element of projectivity is provided by reference to "a community" rather than "your community". Respondents are required to indicate preference for all alternatives, each being evaluated against the others. The item is titled "Well Arrangements."

Item structure. Each of the items in the original Kluckhohn schedule displayed a similar format to the item reproduced in Table 8. The three solutions to the stated problem offered in each item correlate with the three value orientation positions specified for the particular value orientation area for which the item was developed. This item was designed to measure the Kluckhohn relational value orientation area. Alternative A was constructed to correspond to the Lineality position within that value orientation area, solution B to the Collaterality position and solution C to the Individualism position.

Item scoring. For each of the items in the original schedule, respondents were asked to indicate which of the given solutions they thought was best, next best and least best. In doing so respondents provided a rank order for each of the three given solutions. Furthermore respondents were requested to indicate which of the three solutions they thought other people would prefer.

Instrument structure. The schedule developed by Kluckhohn and Strodtbeck (1961) contains twenty-two items constructed as described. Seven were designed to elicit rankings in the relational-value orientation area, five in the time area, five in the man-nature area and six in the activity area. As may be seen the schedule was in essence a complex battery of measurements comprising four distinct tests, each of which corresponds to a single value orientation area, and each of which contains elements of three sub-tests; these sub-tests being the solutions to the given generalized problem which correlate with the value orientation area positions.

Administration. In the original Five Cultures study the schedule developed by Kluckhohn and Strodtbeck (1961) was administered by a team of trained researchers, who personally visited the respondents selected to provide the research sample. The schedule was administered by means of the researchers using the schedule in the form of a structured interview. Each item was delivered verbally and respondent preferences were recorded by the researchers. This procedure is seen as time consuming and requiring the services of a cadre of

trained assistants, as the instrument is administered individually to each respondent.

Other researchers, (Kitchen, 1966; Anderson, 1972) who have employed either the original Kluckhohn schedule or a close variant have adopted some form of group administration. This would appear suitable providing that directions for the completion of the instrument are clear and unambiguous, and that some form of direction and supervision is provided. The format and the required content of the items would therefore appear suitable for group administration providing that either the researcher, or a trained assistant, is available to initiate and supervise activities.

Variants of the original schedule. As has been previously noted, the Kluckhohn schedule as described has rarely been administered in the same form as it was initially created. The variants that have been used by researchers such as Gue (1967), Bryans (1971) and Anderson (1972) were developed by rewording items, removing items or creating new items in order to tailor the variant instrument to the target population defined in the research study. In all cases these adaptations have remained within the bounds of the original Kluckhohn conceptual scheme of culturally relevant common problems, and retained the item format, item structure, instrument structure and scoring procedures as described above.

Structure of the Proposed Instrument

The present study, as has been noted, is based on a differing conceptual framework from that adopted by Kluckhohn and Strodtbeck, thus the content of the items to be developed was determined by

the conceptual framework previously described, and by the nature of the defined target population. Apart from conceptual and textual changes required by these considerations, the construction of the instrument which is demanded by this study adhered closely to the features of the original Kluckhohn schedule as described, except for the introduction of an innovation in the method of respondent reaction to the items.

Item format. The format of the items in the instrument developed was essentially the same as that of the items in the original Kluckhohn schedule. Each item was introduced by a short title, offered a highly generalized situation which would be within the common experience of members of school organizations, provided three alternatives to the problem posed, provided an opportunity for respondents to indicate their preference for each of the given solutions, and embodied an element of projectivity.

Item structure. Each item in the instrument developed was constructed to deal with a single value orientation area as prescribed by the conceptual framework. Each of the given solutions was designed in an attempt to represent a single value orientation position as described by the conceptual framework.

Item scoring. As has been previously noted, some difficulty has been experienced in statistical analysis of data generated by the Kluckhohn schedule and its subsequent variants. A portion of this difficulty stems from the ordinal nature of the data generated. An

attempt was made in the development of the present instrument to minimize this problem by providing a Likert-type scale for each of the item alternatives.

This scale enabled responses to be made within five degrees of preference for each alternative. Although debate may be generated regarding the equality or non equality of the intermediate measures provided between the extremes of "the best way" and "the worst way" along this scale, the assumption is made that the five positions are equally distributed. On the basis of this major assumption, the advantage of interval measurement is attained, the scale being conceived as an equal interval scale. It should be added that the scale explicitly embodies the preference eliciting method of the original Kluchohn schedule, being constructed with degrees of "bestness". This innovation is concerned with providing interval data for analysis while retaining the original emphasis in obtaining respondent preference and still allowing the generation of value orientation patterns.

Instrument structure. The instrument developed in this study was constructed on the same basis as the original Kluckhohn schedule. A number of items were designed to tap value orientations of respondents in each of the three value orientation areas defined by the conceptual framework; that is the Relational, Dispositional, and Focal. Each item provided three solutions which were designed to correspond to the three positions specified for each of the value orientation items. Thus, for an item measuring

the Focal value orientation area, one of the three solutions was designed to represent the Task position, one the Pragmatism position, and one the Process position.

The instrument, when developed, contained three major tests, each of which taps one of the proposed value orientation areas. For the purposes of clarity, each of these measures will be subsequently referred to as a *dimension*. That is to say, the instrument developed contains a number of items to measure a Dispositional dimension, a Relational dimension and a Focal dimension. Each set of three positions within a dimension will be referred to as a sub-scale of a dimension. Thus, for the Focal dimension there is a Process sub-scale, a Pragmatism sub-scale and a Task sub-scale. There are nine sub-scales contained within the final instrument, the total of which will be grouped into three homogeneous sets - one for each dimension.

Administration. The instrument developed was constructed on the assumption that it should be suitable for remote administration. This emphasis allows for the normal criticism of remotely administered questionnaires to be levelled at the instrument. However, considering the limited resources available for the pilot administration and any subsequent administration, the development of an instrument for remote administration was seen as necessary.

Reliability and Validity

It is clearly desirable that any instrument should be both

reliable and valid.

Reliability. Ferguson (1971:365) defines reliability as "the proportion of obtained variance that is true variance". The higher the reliability of an instrument, the less the variance of the scores is attributable to error in measurement. Ferguson (1971:365-6) enumerates four methods of estimating the reliability of an instrument. These are given as (1) the test-retest method, (2) the parallel forms method, (3) the split-half method and (4) the internal-consistency method. The delimitations of the present study exclude the application of the first two methods listed. Consequently the internal-consistency method of estimating reliability was adopted to obtain a reliability estimate of the instrument constructed in this study. In particular the Kuder-Richardson formula 20 was applied to obtain these measures. Ferguson (1971:368) notes that this formula yields a measure which is comparable to that obtained by split-half procedures. For this reason a split-half method will not be employed.

Due to the complex structure of the instrument to be developed, reliability co-efficients were calculated for each of the nine sub-tests.

Validity. Bowers (1964:743) considers the essence of validity to be, "the degree of relevance of the concepts, data or research techniques to the research objectives for which they have been developed, and hence the degrees of confidence we should have in them." In the

present study it would appear that several areas require validation. The most important would appear to be (1) the concept of value orientations, (2) the theory of Dominant and Variant Value Orientations on which the bulk of the study is based, (3) the conceptual framework developed for this study and (4) the instrument which is to be developed. It is considered that the concept of value orientations and the theory of Dominant and Variant Value Orientations have been validated by the work of Kluckhohn and Strodtbeck (1961) and other researchers who have utilized these concepts. The question of the validity of the conceptual framework proposed in this study and the instrument to be based on this framework is considered to be complementary rather than exclusive. That the conceptual framework has been developed on the basis of present theory in educational administration is seen as providing some validity. It is considered that a further degree of validity can be provided by the utilization of the concepts of face validity, factorial validity, predictive validity, and an aspect of content validity.

Face validity. Ebel (1965:380) defines face validity as that which an instrument appears to measure. It was decided that the face validity of the instrument developed in this study would be evaluated by panels of competent judges who would be requested to compare the instrument items to the demands of the conceptual framework.

Predictive validity. Predictions of the expected value orientation preferences of sub-groups within the sample of respondents were employed by Kluckhohn and Strodtbeck (1961) to obtain a measure of validity for the original Kluckhohn schedule. The adoption of a similar procedure in the present study was considered beyond the delimitations stated in Chapter 1. However, predictions were made that the instrument developed in this study would yield significantly different value orientation patterns for groups differentiated by societal factors and behavior sphere activities. Null hypotheses to this effect will be stated and tested in a later chapter.

Factorial validity. Ebel (1965:381) defines factorial validity as "the correlation between an item and the factor common to a group of items based on a factor analysis of data". To establish a degree of factorial validity, the data yielded by the pilot administration of the instrument were factor analysed. It was expected that this procedure would yield results of limited utility due to the complex nature of the instrument to be developed. To clarify results, analyses were performed for each of the three dimensions that were contained within the instrument. Although results were expected to be confused due to the relativity of sub-scale scores to the specific problem posed in each item, this procedure was considered necessary.

Additional estimate. Implicit in the Kluckhohn theory is the notion that the items employed to tap value orientations are concerned with important and common problems. An indication of the importance

of situations dealt with in each of the items would appear to offer a further indication of the content validity of the instrument. Data were gathered to provide an estimate of the importance of each item to the respondents.

SUMMARY

This chapter provided a review of the Kluckhohn theory of value orientations and described several aspects of the theory that had previously been neglected. A conceptual framework for the development of an instrument to elicit value orientations of school organization members was developed in accordance with the procedure employed by Kluckhohn and Strodtbeck in their original study. The development of the present conceptual framework made some reference to organizational and behavioral theory.

The nature of the original Kluckhohn instrument was described in some detail and construction procedures and instrument characteristics were outlined for the instrument that is to be developed in this study. Procedures for the estimation of reliability and validity of this instrument were established.

This chapter completes the theoretical and conceptual development sections of this study.

CHAPTER 5

THE INSTRUMENT

This chapter is divided into three main sections. In the first the development of the instrument is described together with an explanation of the rationale for each included item. The second section presents a description of the final form of the instrument. The third section considers appropriate scoring procedures and states hypotheses which are tested in the following chapter. These hypotheses are developed in order to provide partial validation of the instrument, and to provide an example of the manner in which the scoring procedures may be applied.

THE DEVELOPMENT OF THE INSTRUMENT

Item Development

A major difficulty encountered during all stages of item development was that of devising items which would tap a single value orientation area with minimized contamination from others. This difficulty was also reported by Kluckhohn and Strodtbeck (1961:91-2), where it is stated that the very nature of value orientations in directing behavior presupposes that all orientations contribute to all, or almost all, patterns of behavior. Thus the creation of items became a problem of identifying areas of enquiry that minimized the effect of other orientations and tended to isolate the orientation

being investigated. Nevertheless, working within the parameters discussed in the previous chapter, thirty-two items were initially developed, eleven designed to tap the Dispositional dimension, eleven the Relational dimension and ten the Focal dimension.

First screening. These initial items were scrutinized by a group of graduate students and professors in Educational Administration in order to estimate content and face validity as related to the conceptual framework. This scrutiny eliminated six items which were seen as not correlating with the conceptual framework and seven which were seen as being not sufficiently emphasising a single orientation. The remaining twenty-one items were given general titles and randomly ordered to produce an initial draft of the instrument. The item content of the instrument is given in Table 9.

Second screening. This initial draft was circulated among the graduate students and staff of the Department of Educational Administration at The University of Alberta with a request that members complete and comment as to the wording, phrasing and comprehension of the items, as well as the general format of the instrument and the clarity of respondent directions. Included with this draft instrument was a rating sheet on which the respondents were requested to indicate how important each item appeared to be in the present school context. Such a measure of item importance to respondents was seen as providing a crude measure of validity, insofar as important areas of concern in schools could be expected to yield clearer indications of respondent values. Indices of importance revealed by this trial were used as

TABLE 9

ITEMS INCLUDED IN INITIAL DRAFT

Item	Short Title.	Orientation.	Positions A	B	C
1	Different Schools.	Focal	Task	Process	Pragmatism
2	Qualifications.	Relational	Mediationary	Subjectivity	Mastery
3	Lesson Plans.	Dispositional	Laterality	Individuality	Lineality
4	Schools.	Relational	Subjectivity	Mastery	Mediationary
5	Supplies.	Dispositional	Laterality	Lineality	Individuality
6	Teaching.	Focal	Task	Pragmatism	Process
7	Discipline.	Dispositional	Laterality	Individuality	Lineality
8	Evaluating Students.	Focal	Process	Pragmatism	Task
9	Important Decisions.	Dispositional	Laterality	Individuality	Lineality
10	Making Things Better.	Relational	Mastery	Subjectivity	Mediationary
11	A New Program.	Relational	Subjectivity	Mediationary	Mastery
12	Staffing.	Focal	Pragmatism	Task	Process
13	Controversial Topics.	Dispositional	Lineality	Laterality	Individuality
14	Efficiency.	Focal	Task	Pragmatism	Process
15	A New Policy.	Relational	Mediationary	Mastery	Subjectivity
16	Hiring.	Focal	Process	Pragmatism	Task
17	Failing Students.	Dispositional	Laterality	Individuality	Lineality
18	Student Participation.	Relational	Subjectivity	Mastery	Mediationary
19	Text Books.	Focal	Pragmatism	Task	Process
20	Accountability.	Dispositional	Lineality	Laterality	Individuality
21	The Cost of Education.	Focal	Process	Task	Pragmatism

one criterion for future item selection.

Third screening. Respondents to this initial draft were invited to take part in further validation activities. These took the form of investigatory seminars in which the conceptual framework was expounded to the group. The group members were asked to classify the item alternatives under the positions specified in Table 9. Two such seminars were held, and in each case the value orientation area was specified for each item prior to classification of the alternatives. This step was taken in recognition of the cumulative effect of all value orientations on behavior, as mentioned above. Throughout the validation seminars, participants were encouraged to comment on the possible influence of other value orientations other than the one intended to be tested by each item.

As a result of these validation seminars, the importance indices and general comments received, nine of the items included in the initial draft were discarded, and changes were made to those remaining, as indicated in Table 10.

Final form. In addition to the remaining twelve items, three more were developed as a result of comments made during the developmental stages, and included in the final form of the instrument. These items are indicated by asterisks in Table 11, which provides a summary of all the final items. As these three did not receive the scrutiny accorded the other twelve items, validity is open to greater question. Nevertheless, they were included as appertaining to three areas offering suggestion of fruitful return.

TABLE 10

MODIFICATION OF DRAFT INSTRUMENT ITEMS

Draft Item Number	Title	Changes made	Final Number
1	Different Schools.	Changes in phrasing of given alternatives.	1
2	Qualifications.	Mediationary alternative reworded.	2
3	Lesson Plans.	Minor re-phrasing of situation and alternatives. Laterality alternative changed.	3
4	Schools.	Removed.	-
5	Supplies.	Minor changes in wording.	6
6	Teaching.	Minor changes in wording.	5
7	Discipline.	Title changed to "A Problem."	8
8	Evaluating Students.	Condensed and completely re-written.	10
9	Important Decisions.	Minor changes in wording of situation.	12
10	Making Things Better.	Removed.	-
11	A New Program.	Removed.	-
12	Staffing.	Removed.	-
13	Controversial Topics.	Removed.	-
14	Efficiency.	Removed.	-
15	A New Policy.	Mediationary alternative re-written and other alternatives re-phrased.	4
16	Hiring.	Alternatives condensed.	7
17	Failing Students.	Alternatives modified and condensed.	14
18	Student participation.	Minor re-phrasing.	9
19	Text Books.	Removed.	-
20	Accountability.	Removed.	-
21	The Cost of Education.	Removed.	-

TABLE 11

SUMMARY OF FINAL INSTRUMENT ITEMS

Item Number	Item title	Orientation	Table
1	Different Schools.	Focal	12
2	Qualifications for Principal.	Relational	13
3	Lesson Plans.	Dispositional	14
4	A New Policy.	Relational	13
5	Teaching.	Focal	12
6	Supplies.	Dispositional	14
7	Hiring.	Focal	12
8	A Problem.	Dispositional	14
9	Student Participation.	Relational	13
10	Evaluating Students.	Focal	12
11	Discipline.*	Relational	13
12	Important Decisions.	Dispositional	14
13	Duty.*	Focal	12
14	Failing Students.	Dispositional	14
15	Success.*	Relational	13

*These items did not receive the full face validation treatment.

Length. One consistent criticism received during the feedback portion of the developmental process was that the length of the proposed instrument could prove burdensome to respondents. This was accepted as valid, previous note having been made of the possibily distracting length of the original Kluckhohn schedule. However, the alternative of a lesser number of items for each orientation was not seen as viable, as many measurements as possible being seen as desirable. In this context, fifteen items was seen as a realistic compromise. This number is shorter than the number of items in the Kluckhohn schedule and its variants, and appears to offer a respectable number of measurements.

Item Rationale

Item construction was based on the conceptual framework developed in Chapter 4, each item dealing with a problem or situation which was considered applicable to all school organizations. These situations are related to one of the three value orientations, either Dispositional, Relational or Focal, as previously described. For each situation three alternatives were provided, each of which reflects one of the value orientation positions postulated within each value orientation area. All fifteen items included in the final form of the instrument are summarized in Table 11. This table indicates the number and title for each item, and a column is provided to indicate the value orientation which each item is designed to measure. Asterisks indicate the three items that did not receive the full initial validation procedure as reported. The "Table"

column refers to one of the three succeeding tables which provide a summary of the item rationale for each value orientation.

Each of these tables indicates the number and title of each item, a short description of the situation or problem on which the item is based, followed by a short explanation of the alternatives given for each item. These explanations are provided under the value orientation position which they represent, and are preceded by the letter A, B, or C, with which they were prefixed in the final form of the instrument.

Focal items. The Focal value orientation area as developed in chapter 4 is primarily concerned with technology in school organizations. The three postulated positions along this orientation were seen as being characterized by member activity within the organization. A Task position was described as reflecting achievement of goals by *standardization* of activities, a Pragmatic position was seen as being characterized by a criterion of *convenience*, and a Process position was conceived as *individualization* in orgnizational services. As may be seen from Table 12, the task positions embody subject specialization within a school, (Item 1), the teaching of specific skills (Item 5) and evaluation of students by specific measurement of subject mastery (Item 10). These aspects of school organization are all seen as reflecting standardization of operations, as is an emphasis on the recruitment of specialist teachers (Item 7). Item 13 extends the bounds of the task position, by stressing concern for teaching as meeting the needs of society. This aspect of the

TABLE 12

FOCAL ITEMS RATIONALE

Number of item.	Item situation.	Value Orientation Positions: Task	Pragmatism	Process
1	Type of school in which teachers prefer to work.	A. Teaching responsibilities clearly defined in school with subject specification stressed.	C. School provides good salary and security.	B. School concerned with realizing pupil potential.
5	How teachers should discharge their duties.	C. Concentration on teaching specific skills.	B. Concentration on meeting expectations of superiors.	A. Concentration on establishing a good learning climate.
7	Criteria for hiring teachers.	C. Specialist qualifications.	B. Availability.	A. Ability to establish a good relationship with students, generalists rather than specialists.
10	Procedure for evaluating students.	C. Administration of subject mastery tests.	B. Administration of standardized tests.	A. Individual pupil performance.
13	Perceived concerns of teachers.	A. Should be concerned with meeting societal needs.	C. Should be concerned with meeting the needs of the system.	B. Should be concerned with meeting the needs of the students.

task position is referred to in chapter 4 and could be seen as a motivational (or rationalizational) aspect for the standardization of teaching in school organizations.

The Pragmatism positions are characterized by convenience for organizational members. Stress is laid on salary and security, (Item 1), meeting expectations of superiors (Items 5 and 12), and availability (Items 7 and 10).

Finally, the Process positions stress individualization of the teaching process (Items 1, 10, and 13) and the establishment of good teacher-pupil relationships (items 5 and 7), factors which, within the context of the items, are seen as characteristic of the Process position within the Focal value orientation area.

Relational items. As previously discussed, the Relational orientation considers the relationship of individuals to the organization. The Mastery position reflects control over the organization, the Mediationary position embodies compromise between Mastery and Subjectivity, and Subjectivity reflects dominance by the organization. To a large part, the items developed build heavily on the system and phenomenology characteristics tabulated by Greenfield (1971:3a). Table 13 summarises the Relational items.

Item 2 considers skills required by persons appointed to administer schools, the Mastery position representing educational expertise as important, the assumption being that a school is available to be used for educational purposes by the organizational members, and therefore educational expertise is a criteria for good

TABLE 13

RELATIONAL ITEMS RATIONALE

Number of item.	Item Situation.	Value Orientation Positions Mastery	Mediationary	Subjectivity
2	Qualifications for school Principals.	C. Teaching qualification and experience.	A. No special qualification or experience.	B. Specialist administrative skill and expertise.
4	Reaction to a new policy perceived as disadvantageous to students.	B. Refuse implementation, and offer aid to seek alternative.	A. Discuss the position with superiors.	C. Acceptance.
9	Encouraging students to participate.	B. Give students greater control.	C. Emphasise better communication and encouragement.	A. Reorganize the situation.
11*	Best method of ensuring control in a school.	B. Rely on qualities of individual administrators.	A. No best way. Depends on the situation.	C. Rely on effective rules and regulations.
15*	Achieving success in a school system.	B. Seek promotion wherever and whenever possible.	C. Stay in the classroom.	A. Seek promotion within one system only.

management. The Mediationary position specifies no special expertise for administrators, while the Subjectivity position reflects a systems view of school organization that requires specialist skill and knowledge regarding organizations *per se*.

The element of fatalism embodied within the Subjectivity position is reflected in Items 4 and 15, with the element of control by individuals over organizational situations as is inherent in the Mastery position being reflected in Items 4 and 9.

The lack of domination by an organization as an aspect of the Mastery position is contained in Item 15, an aspect which also contributes to the Mediationary position in this item. However, the Mediationary position in Item 15 also embodies a degree of Subjectivity by de-emphasising promotion. The Mediationary position embodied in Items 4 and 9 is seen as reflecting in both cases a compromise situation. Item 11, one of the three developed without the total validation procedure which was applied to other items, relates directly to Greenfield's (1974:3a) comments regarding control within organizations. The Mastery position reflects reliance on the individual with ascribed responsibility and authority within the organization, while the Subjectivity position reflects reliance on aspects of organizational structure, namely rules and regulations. The Mediationary position is seen as embodying the compromise view of "no firm opinion". Emphasis on the structural aspects of the organization is also reflected in the Subjectivity position in Item 9, where the solution to the problem posed is to reorganize or

restructure student involvement.

It will be noted that two of the items included to measure Relational dimension did not receive the full validation procedure accorded to other items. As this is so, these items are regarded as possibly suspect in the context of the final form of the instrument. This is particularly so with Item 15, which is possibly the most suspect of the entire battery.

Dispositional items. The Dispositional value orientation area is concerned with the relationships between organizational members. The three specified positions are Individuality, where the autonomy and authority of the individual is stressed, Laterality, which credits the peer group with authority and responsibility, and Lineality, which assigns authority and responsibilities to holders of administrative and supervisory offices within the organization. Rationale for the design of the positions associated with the Dispositional items is summarized in Table 14.

The Individuality position is represented in Items 3 and 14 by an emphasis on assigning responsibility to individual teachers, in Items 6 and 8 by stressing individual teacher autonomy and self reliance, and in Item 2 by the notion of majority roles in deciding an issue. In the latter case the original Kluckhohn and Strodtbeck (1961) instrument provides a precedent for the association of majority voting with the concept of individualism.

The Laterality position is obtained in Items 6 and 4 by stressing consensus and thus group unity. Items 8 and 14 identify

TABLE 14

DISPOSITIONAL ITEMS RATIONALE

Number of item.	Item Situation.	Value Orientation Positions. Individuality	Laterality	Lineality
3	Provision for instructional planning in three different schools.	B. Responsibility of individual teachers.	A. Responsibility of group of teachers.	C. Teachers expected to prepare plans which may be checked.
6	Distributing supplies in a school.	C. Teachers able to help themselves.	A. Group consensus as to allowable amounts.	B. Distribution controlled by school administrators.
8	Teacher experiencing discipline problems.	B. Teachers attempts to solve problems without assistance.	A. Teacher seeks aid from other teachers.	C. Teacher seeks aid from appointed superiors.
12	Decision making procedure in a school.	B. Decision by majority vote.	A. Decision by consensus.	C. Decision by administrator.
14	Procedure for failing students.	B. Perogative of individual teachers.	A. Staff consult to reach a decision.	C. Final decision made by Principal.

members of a teacher peer group as referents for the provision of help and information. Item 3 embodies the concept of Laterality by assigning responsibility to a group of teachers.

The content of the Lineality position is contained in the solution to Items 6, 8, 12 and 14 by crediting responsibility authority and final decision power to school administrators. Item 3 stresses control by administrative officials as being representative of Lineality.

DESCRIPTION OF THE FINAL INSTRUMENT

Following the completion of the developmental stages as outlined, the final form of the instrument was produced, and titled the Organizational Values Inventory (Schools), abbreviated to OVIS.

The Organizational Values Inventory (Schools), is contained in Appendix A. This instrument comprises four sections:

1) respondent directions.
2) item battery.
3) demographic data section.
4) removable rating sheet.

Each section will be described in turn.

Section 1 - The Introduction

This section begins by explaining to respondents that all the items contained in the instrument are concerned with situations and problems connected with schools. The format of the items is illustrated and explained. The alternatives to the item situations

are described as ways of solving the given problem or looking at the given situation. Respondents are requested to indicate their preference for each of the "ways" by circling a number on the five point scale printed adjacent to each of the three positions. This five point scale is shown in Table 15, which is a reproduction of the example provided for respondents within this section of the instrument. Table 15 provides an example of not only the scoring procedures but also of the item format.

The box at the bottom of the page in Table 15 clarifies a problem encountered during the development stages, by pointing out the logical exclusiveness of "best" and "worst". Subsequent instructions in the box request that all items be completed, and reference is made to Part C which is described subsequently.

In total, the instructions occupied two pages, the main body of the items beginning after the example page that is shown in Table 15.

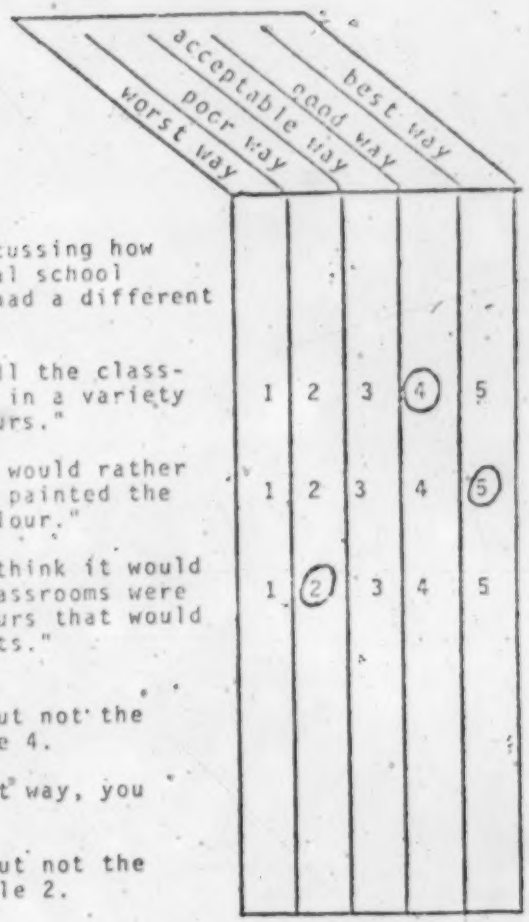
Section 2 - Item Battery

Fifteen items were included in the final form of the OVIS, five each for the three value orientation areas. Items were randomly arranged throughout the instrument as were the alternatives included in each item. In all cases, the item format was the same as shown in Table 15 with the addition of sequential numbers, immediately preceding the item title. Two items were presented on each page, except for item fifteen, which appeared alone.

The five position preference scale appeared to the right

TABLE 15

EXAMPLE OF ITEM FORMAT



COLOURS

Three people were discussing how the classrooms in the local school should be painted. Each had a different idea.

A One said "I think all the classrooms should be painted in a variety of bright cheerful colours."

B The second said, "I would rather have all the classrooms painted the same bright cheerful colour."

C The third said, "I think it would be better if all the classrooms were painted in neutral colours that would not distract the students."

1	2	3	(4)	5
1	2	3	4	(5)
1	(2)	3	4	5

If you think A is good, but not the best way, you would circle 4.

If you think B is the best way, you would circle 5.

If you think C is poor, but not the worst way, you would circle 2.

PLEASE NOTE:

1. *Although you may circle the same number more than once for each item, logically, only one view can be the best, and only one can be the worst in each item.*
2. *Please fill out the removable rating sheet, (Part C) as you complete each item.*
3. *Please complete all items.*

of all items. Provision was also made for later scoring of the items by ranking the weighted preference scores. The provision of spaces for subsequent ranking by the researcher also provided for a sequential number for all of the item alternatives.

As there were three alternatives for each item, a maximum response to the instrument would produce a total of forty-five scores, fifteen for each of the dimensions, five for each of the position sub-scales postulated in the conceptual framework.

This section of the instrument totalled eight pages. On the last page there appeared a reminder to complete the demographic data section, titled Section B.

Section 3 - The Demographic Data Section

Occupying two pages, this section included twelve questions designed to provide a description of all respondents. Provision for responses was made by instructing respondents to circle the number preceding the appropriate answer to each question. This section was made more comprehensive than required by this particular study, in order to field test questions that could prove worthwhile in future research.

Section 4 - The Rating Sheet

Titled Part C, this sheet was not bound with the body of the instrument, but left loose so that it could be removed and completed at the same time as each item. Two rating scales were provided. One was designed to measure how important the items

appeared to respodents, the second to investigate how congruent respondents considered their answers to be with those they would expect their peers to make. The importance scale allowed four degrees of measurement, from "not important" to "very important". The congruence scale provided respondents with a choice of any of the three given alternatives, as well as an option to indicate none of the given views. The congruence scale only required respondents to indicate which of the alternatives, if any, they saw as being most preferable to their peers.

This section is bound together with the rest of the instrument in Appendix A.

Appearance of the Instrument

Mindful of the time-consuming nature of each item for potential respondents, a factor compounded by the total number of items, an attempt was made in the design of the final form of the instrument to minimize irritating and distracting factors in presentation. A major feature designed to facilitate easy completion was that of the final binding. Rather than inconveniencing respondents by rigid binding, a ring binding process was employed, which allowed all pages to lie flat during completion of the instrument, and facilitated progress from page to page. To further enhance ease of completion, a large type face was employed, using ten point spacing. In addition, generous spacing was provided between items wherever possible, and the entire instrument was printed on heavy paper. Finally, the entire instrument was contained

between two cardboard covers to ensure an attractive appearance.

DATA ANALYSIS - DISCUSSION

Nature of the Data

The Organizational Values Inventory (Schools) was designed to yield patterned data similar to that provided by the original Kluckhohn schedule and its variants. This is in accordance with the defined concept of value orientations as organized (rank-ordered) preferences.

Nomenclature. Given a value orientation area (dimension) X, with three defined positions of A, B, and C, then there are thirteen patterns of preference that are possible. These are listed in Table 16. The nomenclature noted in this table was originated by Kluckhohn and Strodtbeck (1961). The symbol > is read "is preferred over", and the symbol = is read as "equally preferred to". As may be seen from Table 16, there are six "pure" pattern types in which each of the three possible positions is differentially ranked. There are six possible patterns where two positions are equally preferred, and a single pattern where all positions are equally preferred.

Any one of these patterns describes a single value orientation. This observation provides a concise definition of the term value orientation. Caudill and Scarr (1962:57) observe "...we define a *value orientation* as a ranking of positions in a value orientation area."

TABLE 16

POSSIBLE VALUE ORIENTATION PATTERNS

Pure types	Linked first order types	Linked second order types
A > B > C	A = B > C	A > B = C
A > C > B	A = C > B	C > B = A
B > A > C	B = C > A	B > A = C
B > C > A		
C > B > A	Non-ordered types	
C > A > B	A = B = C	

NOTE: > denotes "is preferred over"

= denotes "is equally preferred to"

After: F. R. Kluckhohn and F.L. Strodtbeck. Variations in Value Orientations. Evanston, Ill.: Row Peterson. 1961

For each item in the OVIS there are therefore thirteen possible value orientations which can be indicated by each respondent, each value orientation being described by a particular pattern. It is these patterns that are of central concern in analysis.

Distance. Caudill and Scarr (1962:58) introduced the conceptual tool of *distance* in the analysis of value orientation patterns, indicating that, "By distance between two value orientations we mean *the smallest number of adjacent position rank reversals required to turn one into the other.*" Thus, given the pattern A > B > C, reversal of the ranks of A and B yields B > A > C which is a *one-distance* difference. In relation to the given pattern, then B > C > A is a *two-distance* difference, and C > B > A is a *three-distance* difference, the maximum possible. The usefulness of this concept is that it provides a measure of the amount of change necessary to produce variant patterns from a determined dominant pattern. Whereas a one distance difference requires little change to a given pattern, a two-distance change requires more and a three distance change requires the greatest possible change.

The concept of distance has been employed by Bryans (1971), Gue (1967) and Anderson (1972) in their research with the Kluckhohn schedule and appears to be a valuable tool in the analysis of value orientations.

Linked types. Table 17 orders all of the possible thirteen patterns by degree of distance. This arrangement provides an expansion of the original Caudill and Scarr model by integrating the linked types

TABLE 17

THE THIRTEEN POSSIBLE VALUE ORIENTATION PATTERNS
LOGICALLY ORDERED TO ILLUSTRATE THE DISTANCE CONCEPT.

PATTERNS	DISTANCE
A > B > C	0
A = B > C	½
A > B = C	½
B > A > C	1
A > C > B	1
B > A = C	1½
A = B = C	1½
A = C > B	1½
B > C > A	2
C > A > B	2
B = C > A	2½
C > A = B	2½
C > B > A	3

NOTE: This ordering of value orientation patterns is adapted and expanded from the original model provided by William Caudill and Harry A. Scarr, "Japanese Value Orientations", Ethnology 1:53-91. 1962

into the model. "Pure" pattern types which do not contain equally preferred positions were the only patterns considered by Caudill and Scarr, and these are shown in Table 17 in bold face type. Linked order types have been inserted into the model between the major pure types in logical positions. These linked types are shown in italic type. The distance scale accompanying the model provides for half distances to accomodate these linked types.

Non-ordered type. The inclusion of the non-ordered type in the centre of the array provides for all thirteen possible patterns to be represented in this arrangement. It should be noted that this non-ordered pattern is not located at a one and one half distance from the given base pattern. It is located in the centre of the array to indicate the close relationship of this pattern to each of the other twelve.

AREAS OF ANALYSIS

The areas of concern that are identified in the following discussion are similar to those identified by Kluckhohn and Strodtbeck (1961:121-137) in their pre-analysis discussion of the first application of the original Kluckhohn schedule. A different approach is taken in the present study to that in the Kluckhohn and Strodtbeck report.

In an analysis of the data yielded by the OVIS, there are two major areas of investigation - description and differentiation.

Description

The descriptive mode of analysis is concerned with the nature of the value orientation patterns yielded by respondents. This analysis concentrates on determining dominant and variant value orientations.

Item patterning. Dominant and variant patterns for each of the fifteen items are investigated in this phase of analysis by ascertaining the proportion of respondents choosing each of the thirteen possible patterns that are associated with each item. Criteria may be established for identifying the proportion necessary for a pattern to be declared dominant, or the most frequently preferred pattern may be so identified. This procedure may be followed for all respondents and/or defined groups of respondents.

Dimension patterning. In this case dominant and variant patterns are identified for each of the three value orientation areas (Focal, Dispositional and Relational) that are tapped by the instrument. Dominant and variant patterns may be ascertained by considering the proportion of respondents that selected each of the thirteen possible patterns for those items that tap each particular dimension. Criteria may be established to determine the proportions of the responses that will determine dominance, or a simple majority may be employed. This procedure may be followed for the total sample, and/or defined sub-groups.

Summary. The descriptive mode of analysis rests on frequency of choice for particular patterns by respondents. In the majority of studies employing the Kluckhohn schedule or its variants, dominancy has been associated with majority preference.

Differentiation

This phase of analysis investigates differences in the dominant and variant patterns yielded by respondents. The major concerns are the *nature* and the *severity* of difference.

Between-pattern differences. Pattern preferences of defined groups of respondents are compared for each item and for each dimension. There are several possible procedures. Dominant patterns for determined groups may be determined and compared. For example the dominant patterns of teachers and administrators may be compared. However, this procedure may be difficult to apply when the sample is small. Alternately, the proportion of a group of respondents preferring the determined dominant pattern for the total sample may be investigated. In this case after the dominant pattern for an item or dimension has been determined for the total sample, then the proportions of teachers and administrators choosing that pattern can be compared. Criteria may be established to set levels of significance of difference depending on pertinent factors, and the mode of inquiry adopted.

Within-pattern difference. If the dominant patterns of two determined groups are congruent, there is still the possibility that there may

be a difference in the degree of preference for any of the three positions within that pattern. For example, if both teachers and administrators select the pattern A > B > C for a given item or dimension, one of these groups may prefer A over B considerably, while the other may only marginally prefer A over B. Investigation of this possibility has posed severe statistical problems in studies using the Kluckhohn schedule. This may be seen as attributable to the ordinal nature of the data generated. By the inclusion of a five degree interval scale to measure preference for each value orientation position, the OVIS offers a means of avoiding this difficulty. Comparison of the means for each of the value orientation positions on the position sub-scale should indicate if there is a degree of intra-pattern difference in preference.

Summary. The differential mode of analysis investigates differences between the value orientations of defined groups of respondents. These differences may be between-pattern or within-pattern differences.

DATA ANALYSIS PROCEDURES - DESCRIPTIVE ANALYSIS

These sections describe the procedures which were employed to analyse data generated in the pilot administration of the Organizational Values Inventory (Schools). It is stressed that the procedures adopted in these sections are illustrative of possible ways in which data obtained through the administration of the OVIS can be analysed, and are by no means the only ways. The analysis conducted

in the following chapter provides an example of how OVIS data may be treated, and provides information as to the reliability and validity of the instrument. With these considerations in mind the procedures outlined below were selected with a view to rigor.

The descriptive analysis stage concentrated on determining the dominant value orientation patterns of respondents for each item and for each dimension. Two procedures were employed.

Pattern Frequency

The number of respondents choosing each of the possible thirteen patterns was determined for each item. This was accomplished by means of a special computer program which determined the pattern of preference for each respondent for each item and then determined the number of respondents selecting each of the possible patterns for each item. A copy of the computer program is contained in Appendix B.

Criteria for Dominance. For each item the number of respondents selecting each of the thirteen possible patterns was examined. In order for a single pattern to be declared dominant, two criteria had to be met.

The first criterion is concerned with the nature of the distribution of respondent preference across the possible patterns. It is considered that if this distribution approximates a normal curve, then it is unlikely that a dominant pattern will exist. Goodness-of-fit to the normal was tested by application of the

Kolmogorov-Smirnov test.

The Kolmogorov-Smirnov test. Siegel (1956:48-52) describes the application and utility of this statistical method indicating that this test treats individual observations separately by comparison of theoretical and actual cumulative distribution of choices. This property influenced selection of this procedure. The test yields a maximum deviation score designated D, with which are associated levels of significance dependent on sample size.

The first criterion set for the determination of a dominant pattern for a single item was that the associated probability of the Kolmogorov-Smirnov D obtained from analysis of the distribution of respondent preference for all patterns should be less than .05.

Critical number. The second criterion set for the determination of a dominant pattern concerns the number of respondents that select the most preferred pattern. Rather than selecting a pattern that received a simple majority preference as a dominant pattern, it was decided that there should be a significant number of respondents selecting this pattern over other patterns. In this case significance was determined by the application of a Chi-square, one sample test as described by Siegel (1956:43-47). Again this is a goodness-of-fit test, but in this case examination is made between observed and expected number of respondents choosing a particular pattern over all other patterns.

This test was applied by comparing the number of respondents selecting one pattern to the total number selecting the other

twelve patterns. On the basis of the sample size obtained in the pilot administration, a critical number was determined which was applicable to the analysis of each item. This critical number is defined as that number of respondents choosing a single pattern which will yield a Chi-square with an associated probability of less than .001.

The adoption of a critical number criterion for determining dominant patterns raises the probability that more than one dominant pattern may be determined for each item. For example, if the critical number for the determination of a dominant pattern is set at 15 for a sample size of 60, and if the distribution of respondent preferences meets the first established criterion, then it is possible for four of the thirteen patterns to be declared dominant. This is seen as a strength in the adopted procedure as it honours the Kluckhohn theory which allows for dominant and variant patterns to be present. It is unfortunate that the method adopted of setting criteria for dominance considers patterns as either dominant or not dominant. However, this is seen as a problem of nomenclature, and is considered preferable to adoption of determination of dominant and variant patterns by means of simple majority preference.

Dimensions. The procedures described above for the determination of dominant patterns for items by means of pattern frequency analysis will also be applied in determining dominant dimension patterns. There are three dimensions tapped by the OVIS - Relational, Dispositional and Focal. Each of these dimensions contains five items. Once the number of respondents choosing each of the possible thir-

teen patterns for each item within a single dimension has been ascertained, these numbers will be totalled to obtain respondent distribution over a dimension.

Summary. In order for a pattern to be determined dominant, in the Pattern Frequency Analysis, two criteria must be met in the case of each item and dimension:

1) The distribution of the number of respondents choosing all possible patterns must yield a Kolmogorov-Smirnov D with an associated $p < .05$.
2) The number of respondents choosing a pattern must exceed a critical number such that the associated Chi-square of that number as compared to the remaining number of respondents distributed over all the other possible patterns is $< .001$.

Preference Score Analysis

In addition to the determination of dominant patterns by the pattern frequency method described above, dominant patterns will also be determined by use of the preference sub-scale means. The OVIS taps three dimensions and each dimension contains three preference sub-scales. For example, the Focal dimension contains a Process, Pragmatism and Task sub-scale. For each item designed to measure the Focal dimension there are three given solutions that correspond to the three sub-scales, and respondents are asked to supply a number from one to five for each of these scales to indicate their preference for a particular solution. Preference Score

Analysis determines dominant patterns by comparing these preference scores that are associated with each item solution.

Items. For each of the three sub-scales in each item, the respondent scores were totalled and a mean obtained. The means, when ranked in order of magnitude provide the dominant pattern for each item. For example, if on a given item the ascertained means are, for position A, 4.1, for position B, 1.8, and for position C, 3.4, then the dominant pattern for that item would be A > C > B.

Dimensions. For each of the three dimensions, dominant patterns were determined by summing the means obtained for each position sub-scale on each item in that dimension. Patterns were determined by the relative magnitude of these totals.

Comment. To the researcher's present knowledge, a five point Likert-type scale has not been employed in any variant of the Kluckhohn schedule. Consequently, the dominant patterns yielded by Pattern Frequency Analysis were compared with those obtained by Preference Score Analysis. This provided a means of verifying the accuracy of the preference frequency procedure as described.

DATA ANALYSIS PROCEDURES - ANALYSIS OF DIFFERENCES

Two procedures were utilized to examine differences in the value orientation patterns of groups within the pilot sample. The first method examined between-group differences only and dealt with the proportion of respondents in a defined

sample sub-group selecting determined dominant patterns for items and dimensions.

Proportion of Respondents Choosing Dominant Patterns

Once the dominant value orientation pattern had been determined for an item or a dimension, the proportion of respondents in determined sub-groups choosing that patterns was calculated. This was achieved by application of the pattern counting program described in Appendix B. The proportions of any two groups of respondents choosing the dominant pattern for an item or dimension was compared by the use of 2x2 Chi-square contingency tables as described by Ferguson (1971:182-87). Yates' correction for continuity was applied where expected frequencies were less than five, (Ferguson 1971:188-9). This use of this procedure is in accordance with Siegel's (1956:104-5) discussion of the application of the Chi-square test for two independent samples.

Criterion. The proportion of respondents choosing the dominant pattern for any item or dimension was declared significantly different if a Chi-square value with an associated probability less than .05 was obtained.

This procedure tests for differences between pattern preferences of sample sub-groups. The second procedure to be described tests for between and within pattern differences.

Preference Score Analysis of Differences Between and Within Dominant Patterns

Analyses of differences between the dominant value orientation patterns of defined sub-groups as determined by the Preference Score Analysis procedure were performed as well as analyses between the preference score means associated with the value orientation positions contained within the dominant patterns of the two groups being compared. Two analytical tools were employed: the degree of distance between the value orientation patterns of sub-groups, and the results of *t*-tests between the preference score means within dominant patterns. The use of *t*-tests in this mode of analysis is the only use made in this study of parametric statistical procedures for the investigation of differences between value orientations . Siegel (1956:19) recommends that four conditions regarding the nature of the data submitted for analysis by a *t*-test need to be met before the use of this statistical procedure may be considered appropriate. These conditions are (1) that the sample is drawn from a normally distributed population, (2) that these populations possess homogeneity of variance, (3) that the observations made are independent and (4) that measurements are taken on at least an interval scale of measurement.

Due to the nature of the five point preference scale employed to obtain preference scores associated with value orientation patterns and the assumption previously made that this scale is composed of equal intervals, the further assumption is made that data yielded by this scale will satisfy the fourth consideration identified above. The assumption is also made that the pilot sample utilized in this study

will allow independent observations. No assumptions are made regarding normal distribution or homogeneity in the population from which the sample was drawn. However, the use of *t*-tests in the absence of these assumptions being made is supported by Boneau (1971:327) who, during a series of controlled experimental calculations, violated several of the conditions normally considered to be required by researchers employing *t*-tests. He observed:

> We may conclude that for a large number of different situations confronting the researcher, the use of the ordinary *t*-test and its associated table will result in probability statements which are accurate to a high degree, even though the assumptions of homogeneity of variance and normality of the underlying distributions are untenable.

In the present study, *t*-tests are employed only for the investigation of within-pattern differences between groups represented in the sample. However, given the assumptions made above and Boneau's observations, it would appear possible that within-patterns differences could be analysed in greater detail by the use of F- ratios if subsequent researchers so desired.

The procedures employed for the investigation of between and within-pattern difference on the basis of preference scores are detailed below.

Between-pattern differences. A single dominant pattern for each subgroup was determined by Preference Score Analysis. Patterns obtained for different groups were examined to determine the logical distance between them. Any distance which was greater than one as described

in Table 17 was accepted as indicative that a significant difference existed between the value orientations of the two groups.

Within-pattern differences. The mean scores obtained for each value orientation position in the dominant patterns identified for particular sub-groups of respondents were compared by the application of a test for the significance of difference between the means of two independent samples as described by Ferguson (1971:151-3). Obtained *t* ratios with an associated two-tailed probability of less than .05 were considered as indicating a significant difference between the preferences of the two groups for a position within their dominant value orientation pattern. If this level of probability was obtained together with a distance difference between the two relevant patterns that was equal to one, then these patterns were declared significantly different.

Dimension difference. Investigation of the distance between the total dimension patterns of groups and *t*-tests between the means of the total preference scores for the three subscales within each dimension were performed. Difference between these means were required to meet the criteria for significance established for item score comparisons before differences between total dimension patterns were considered significant.

Summary

Value orientation patterns for defined sample groups within the pilot sample were examined for significant differences. Three procedures

were utilized.

1. The proportion of respondents within sample groups choosing the dominant pattern for an item or a dimension were compared by the application of a Chi-square test for independent samples. A probability level of $<.05$ was established for a difference to be considered significant.

2. The value orientation patterns of sample groups were also determined by comparing sub-scale means for each item and the total sub-scale means for each dimension. A more than one-distance difference between these patterns was considered significant.

3. The sub-scale means for value orientation positions within a dominant pattern were compared by the application of t-tests between pairs of sample groups. A probability level of $<.05$ was required for a within-pattern difference to be considered significant. If this criterion was met, and if a one-distance difference existed between two patterns, then the patterns were declared significantly different.

HYPOTHESES

The Kluckhohn theory of dominant and variant value orientations predicts that differences in value orientations may be expected for groups differentiated by societal factors, and groups differentiated by behavior sphere activities. If this concept is applied to professional members of school organizations, then value orientation differences may be expected between similarly differentiated groups.

Following the consideration of these bases for difference in the previous chapter, examples of societally differentiated groups within school organizations were considered to be rural and urban school organization members, male and female school organization members, Canadian and non-Canadian school organization members. Examples of behavior sphere differentiation were considered to be those represented by the differing role expectations held for teachers and administrators.

In order to aid in the assessment of the validity of the OVIS, and to provide some direction to the analysis chapter which follows, four hypotheses were developed. These hypotheses are stated in the null form:

I: There will be no significant differences between the value orientations of rural and urban school organization members.

II: There will be no significant differences between the value orientations of male and female school organization members.

III: There will be no significant differences between the value orientations of Canadian and non-Canadian members of school organizations.

IV: There will be no significant differences between the value orientations of teacher and administrator members in school organizations.

Those criteria for the rejection of these hypotheses are the ones that have been specified as representing significant differences between value orientation patterns.

It is stressed that detailed consideration of these hypotheses is considered to be beyond the limitations of the present study. These hypotheses are stated to provide an estimate of validity and to provide direction for the analysis chapter which follows.

SUMMARY

This chapter began by describing the development of the Organizational Values Inventory (Schools). A rationale for each of the items that was included in the final form of the instrument followed. The final section of the chapter was devoted to a discussion of possible scoring and analysis procedures for the OVIS data. Procedures for the determination of dominant value orientation patterns obtained from respondents in the pilot administration and for the investigation of differences between the dominant value orientations of groups represented within this sample were described. Four hypotheses were stated which will be used for direction in the following chapter.

CHAPTER 6

In order to test the instrument devised, a pilot study was conducted at The University of Alberta. This chapter reports details of the administration of the pilot instrument, characteristics of the sample utilized, analyses of the data obtained and information regarding the reliability of the instrument. Some observations are also made regarding validity.

DESCRIPTION OF THE SAMPLE

Administration

During the period of July 4 to 8, 1975, the researcher gained access to three graduate classes and three undergraduate Education classes at The University of Alberta. Cooperating members and professors of these classes provided a sample of 51 respondents, which was considered adequate for a pilot study. In all cases, respondents completed the instrument in their own time and subsequently returned their completed copies to the researcher. Data obtained from these returns were transferred to IBM computer cards and verified. Statistical analyses were executed on these data through the application of Department of Educational Research Services computer programs and several specially written programs.

Classification of Respondents

Forty-seven of the fifty-one respondents returned usable

data. These forty-seven respondents were considered to be within the target population as previously defined and their responses were utilized in determining value orientations of the total sample.

In order to test the four hypotheses stated, the total sample was classified into appropriate sub-groups. The proportions of the total sample within these groups are summarized in Tables 18 and 19. Table 18 classifies respondents by societal differentiation and Table 19 classifies respondents by behavior sphere.

Societal differentiation. Respondents were classified by sex, nationality and location of employment. Table 18 indicates that slightly more than one third of the sample were reported as being female members of school organizations.

For the purposes of the present analysis, nationality was determined by the country in which respondents received their teacher education. Table 18 shows that thirty-five respondents reported receiving teacher education in Canada, while twelve indicated that they received their teacher education elsewhere. On the basis of this information the sample was divided into Canadian and non-Canadian members of school organizations. In some subsequent tables, non-Canadians are referred to as "other".

Fifteen of the respondents indicated that they were employed in rural locations and twenty one in urban locations. The balance of five respondents is accounted for by four unemployed teachers and one peripatetic consultant.

TABLE 18

RESPONDENTS CLASSIFIED ON THE BASIS OF SOCIETAL DIFFERENTIATION

Classification	Group	Number	% of sample
Sex of school organization members.	Male	30	63.8%
	Female	17	36.2%
	Total	47	100.0%
Place of teacher education.	Canada	35	74.5%
	United Kingdom	7	14.9%
	U.S.A.	1	2.1%
	Australia	3	6.4%
	Philippines	1	2.1%
	Total	47	100.0%
Determined nationality of school organization members.	Canadian	35	74.5%
	Non-Canadian	12	25.5%
	Total	47	100.0%
Employed location of school organization members.	Rural	15	31.9%
	Urban	27	57.4%
	Total	42*	89.3%

* Deficit of five accounted for by four unemployed teachers and one peripatetic education consultant.

Behavior sphere. Table 19 classifies respondents by behavior sphere. Hypothesis IV specifies that the value orientations of teachers and administrators be compared and these two groups, together with their component categories are identified in Table 19 . This table also indicates that the sample contained a relatively substantial proportion of university students. It was decided that although no comparative investigation of the value orientations of such a group is required by the stated hypotheses, this group would nevertheless be employed in subsequent between pattern analyses. The three university professors and the single education consultant were excluded from behavior sphere classifications.

Additional classifications. Further description of the sample is provided by Table 20 which classifies respondents by age, attitude towards the Alberta education system, and years of teaching experience. It was decided that the satisfied-dissatisfied groups would be included in later value orientation analyses to provide additional examples of investigation into differences.

STATISTICAL DESCRIPTION OF INSTRUMENT DATA

Table 21 provides a summary description of the dimension and sub-scale data generated by the OVIS in the pilot administration. Means and standard deviations are provided for each item by dimension.

Item Means and Standard Deviations

The mean scores for each item were obtained by calculating the mean score of all respondents for each of the three sub scale

TABLE 19

CLASSIFICATION OF SAMPLE BY
BEHAVIOR SPHERE

Behavior Sphere	Number	% of sample.
Teachers		
- Unemployed	4	8.5%
- Employed	13	27.7%
Total	17	36.2%
Administrators		
- Department Heads	1	2.1%
- Vice Principals	1	2.1%
- Principals	6	12.8%
- Superintendents	3	6.4%
- Other	2	4.3%
Total	13	27.7%
University Students		
- Undergraduates in Education	4	8.5%
- Post Graduates in Education	9	19.1%
Total	13	27.7%
University Professors		
Total	3	6.4%
Other		
- Consultant	1	2.1%
TOTALS	47	100.0%

TABLE 20

CLASSIFICATION OF SAMPLE BY
AGE, ATTITUDE TO ALBERTA EDUCATION SYSTEM
AND YEARS OF TEACHING EXPERIENCE

Classification	Group	Number	% of sample.
Age of respondents.	20 - 24 years	2	4.2%
	25 - 29 years	13	27.6%
	30 - 34 years	15	31.9%
	35 - 39 years	8	17.0%
	40 - 44 years	4	8.5%
	45 - 49 years	3	6.4%
	50 - 54 years	2	4.2%
Total		47	100.0%
Attitude to Alberta Education system.	Very satisfied	1	2.1%
	Satisfied	29	61.7%
	Dissatisfied	15	31.9%
	Very dissatisfied	2	4.2%
Total		47	100.0%
	Satisfied	30	63.8%
	Dissatisfied	17	36.2%
Total		47	100.0%
Years of Teaching Experience.	0	1	2.1%
	1 - 4	5	10.6%
	5 - 9	21	44.7%
	10 - 14	14	29.8%
	15 - 19	5	10.6%
	20 - 29	1	2.1%
Total		47	100.0%

TABLE 21

MEANS, STANDARD DEVIATIONS AND RELIABILITY CO-EFFICIENTS
FOR ALL ITEMS

FOCAL	1 $\bar{x}$	S.D.	5 $\bar{x}$	S.D.	7 $\bar{x}$	S.D.	10 $\bar{x}$	S.D.	13 $\bar{x}$	S.D.	KR-20	(9K est.)
PROCESS	4.49	.95	4.37	.87	3.90	.98	3.96	.98	4.33	1.01	.85	.98
TASK	3.39	.87	3.24	.91	3.57	1.04	2.67	1.02	3.20	.94	.64	.94
PRAGMATISM	1.84	.90	1.86	.92	2.67	.87	3.04	1.03	2.31	1.12	.75	.96

RELATIONAL	2 $\bar{x}$	S.D.	4 $\bar{x}$	S.D.	9 $\bar{x}$	S.D.	11 $\bar{x}$	S.D.	15 $\bar{x}$	S.D.		
MEDIATIONARY	2.92	1.02	4.39	.87	3.55	.97	4.31	1.12	2.26	1.11	.62	.94
MASTERY	3.57	1.12	2.69	1.30	3.78	1.12	2.74	1.15	3.39	1.18	.49	.90
SUBJECTIVITY	3.78	1.14	1.43	.61	2.96	1.09	2.80	1.04	3.02	1.14	.61	.93

DISPOSITIONAL	3 $\bar{x}$	S.D.	6 $\bar{x}$	S.D.	8 $\bar{x}$	S.D.	12 $\bar{x}$	S.D.	14 $\bar{x}$	S.D.		
LATERALITY	3.49	1.22	2.67	1.03	3.71	.94	3.16	1.77	3.88	1.11	.60	.93
LINEALITY	2.39	1.20	2.55	1.10	3.76	1.19	2.04	1.50	2.55	1.25	.53	.91
INDIVIDUALITY	2.84	1.19	3.78	1.30	2.04	.96	3.41	1.10	2.63	1.33	.61	.93

positions included in value orientation areas. Taken together with the standard deviations provided for each item sub-scale, these scores provide some indication of the discriminatory power of each sub-scale within each dimension.

Focal dimension. From the information provided in Table 21, the positions within the Focal dimension appear to have been perceived by respondents as representing distinct alternatives, insofar as the items appear to have provided three alternatives that elicited clear and relatively distinct preferences from the respondents. This is particularly noticeable in the statistics associated with items 1 and 5.

Relational dimension. While item 4 in this dimension appears to provide alternatives that were clearly distinctive, there are several items where the alternatives appear to have been less clearly perceived. Item 2 is particularly noticeable in this respect, with the means obtained for each of the three positions being within a small range. The closeness of these means, together with the relatively large standard deviations associated with these means, suggested that this item may not have offered alternatives which were perceived by respondents as distinct.

Dispositional dimension. Of the three dimensions contained in the OVIS, the statistics associated with the items designed to tap this dimension would appear to indicate that these items present the least clearly perceived alternatives. For the majority of the items tapping this dimension, the means appear to cluster relatively close together,

and the associated standard deviations are large.

Reliability Co-efficients

Preliminary to the analysis of data, it was determined that the Kuder-Richardson formula 20 would be employed to estimate reliabilities of the instrument sub-scales. Kuder-Richardson co-efficients are listed in Table 21 under the "KR-20" heading. The formula employed to obtain these statistics was as given by Ebel, (1965:328) which provides for weighted item scores. Commenting on the Kuder-Richardson co-efficient, Ebel (1965:330) suggests that a score in the region of .90 is generally regarded as satisfactory. As may be seen the co-efficients associated with many of the OVIS scores fall well below this level. However, the KR-20 reliability estimate for all test items was calculated as being .93.

Adjusted reliability co-efficients. A characteristic of reliability co-efficients, as described by Ebel (1965:337) is that the smaller the number of items taken into consideration during computation, the smaller the resulting co-efficient. In order to obtain comparable scores for the dimension sub scales (K=5) and the total number of OVIS items (K=45), a transformation formula suggested by Ferguson (1972:369) was applied to the sub-scale co-efficients. Co-efficients obtained by the application of this formula are tabulated in Table 21 under the heading "9K est."

Although these co-efficients are in all cases estimates, they do allow direct comparison with the total item reliability co-efficient of .93. As may be seen, all items achieved acceptable levels,

equal to or greater than .90, after the application of the transformation formula.

These estimated reliability co-efficients are not offered as evidence as to the reliability of the sub-scales, but rather to indicate that statistical reliability is a function of test length, and with tests containing only five items, deflated estimates may be expected.

Reliability statement. Given the variability of the KR-20 statistics with test length, it is considered that no accurate statement regarding reliability may be made at this time. While it appears possible to state that some of the OVIS sub-scales appear to be more reliable than others, and indeed the reliability of some of the scales appears suspect , a more definitive statement will need to await an investigation of test-retest reliability. This treatment is considered beyond the limits of the present study.

DESCRIPTIVE ANALYSIS

The determined procedures for determining the dominant value orientations of all respondents have been detailed in the previous chapter and are summarized below. These procedures were applied to each value orientation area in turn. Summaries of the procedures and findings are contained in Tables 22, 23, 24 and 25 which follow.

Nomenclature. For convenience, each of the nine value orientation positions that are associated with the three value orientation areas

has been abbreviated, as follows:

Focal Dimension	Relational Dimension
Process indicated PRO	Mastery indicated MAS
Pragmatism indicated PRG	Mediationary indicated MED
Task indicated TAS	Subjectivity indicated SUB

Dispositional Dimension

Laterality indicated LAT
Lineality indicated LIN
Individuality indicated IND

>indicates "preferred over"
= indicates "equally preferred to."

These abbreviations will be used consistently in the Tables that follow.

The following discussion is organized by procedure and dimension.

Pattern Frequency Analysis

This technique requires that the proportion of respondents selecting each of the thirteen possible patterns associated with each dimension be examined to identify dominant patterns. Criteria for determining dominant patterns were established as (1) a Kolmogorov-Smirnov D with an associated $p<.05$ be attained for the distribution of respondent preferences and that (2) the number of respondents choosing a dominant pattern must exceed a critical number. For the present sample size of 47, the critical number was determined to be 10. Thus, for a single pattern to be determined dominant, the preference distribution must meet the Kolmogorov-Smirnov criteria, and a pattern must be chosen by at least 11 respondents. In the case of dimension patterns, the critical number was determined to be

30, for a N of 235 which is the product of 47 respondents indicating preference for the five items within each dimension.

Focal dimension. Table 22 summarizes the application of the pattern frequency analysis to respondent preferences for item solutions in the Focal area. As may be seen, the distribution of respondent preferences for the thirteen possible patterns within the value orientation area was such that the first criterion for the identification of a dominant pattern was met for each item, each item and the total dimension having a distribution of respondent preferences such that the associated probability of the Kolmogorov-Smirnov maximum deviation is <.001.

For each of the five items designed to tap the Focal dimension a single pattern was identified as meeting the second criteria for dominance. For four of the items this pattern was identified as Process preferred over Task preferred over Pragmatism. Item 10 yielded a different dominant pattern with the Task position being the least preferred.

For the Focal dimension as a whole the PRO>TAS>PRG value orientation emerged as dominant.

Relational dimension. Table 23 considers the value orientations within the relational dimension. For each of the items and for the dimension as a whole, the distribution of respondent preferences met the first established criterion, although in the case of items 2, 9 and 15 the associated probabilities were greater than for the other items and the dimension total.

TABLE 22

PATTERN PREFERENCES OF ALL RESPONDENTS FOR EACH OF THE FOCAL ITEMS

Possible Patterns.	Items 1	5	7	10	13	Total
PRO>TAS>PRG	(39)	(30)	(13)	8	(26)	(116)
PRO>PRG>TAS	0	2	3	(15)	4	24
TAS>PRO>PRG	2	5	7	0	3	17
PRG>PRO>TAS	0	1	0	3	1	5
TAS>PRG>PRO	0	0	3	0	0	3
PRG>TAS>PRO	0	0	0	1	1	2
PRO=TAS>PRG	2	5	6	5	5	23
PRO=PRG>TAS	0	0	2	4	2	8
TAS=PRG>PRO	1	0	0	0	1	2
PRO>TAS=PRG	1	4	6	4	3	18
TAS>PRO=PRG	1	0	2	0	0	3
PRG>PRO=TAS	1	0	1	3	0	5
PRO=TAS=PRG	0	0	4	4	1	9
Total N	47	47	47	47	47	235
Kolmogorov-Smirnov D.	.37	.33	.22	..22	.27	.24
assoc. p.	<.001	<.001	<.001	<.001	<.001	<.001

( ) indicates patterns achieving a proportion of the sample yielding a Chi-square with an associated p<.001

TABLE 23

PATTERN PREFERENCES OF ALL RESPONDENTS FOR EACH OF THE RELATIONAL ITEMS

Possible Patterns.	Items 2	4	9	11	15	Total
MED>SUB>MAS	2	7	4	(16)	1	30
MED>MAS>SUB	0	(23)	1	(11)	1	(36)
SUB>MED>MAS	6	0	1	0	0	7
SUB>MAS>MED	(13)	0	0	0	6	19
MAS>SUB>MED	10	0	2	1	(12)	25
MAS>MED>SUB	2	6	(12)	2	1	23
MED=SUB>MAS	2	0	1	1	0	4
MED=MAS>SUB	2	4	6	0	3	15
SUB=MAS>MED	3	0	0	1	(11)	15
MAS>MED=SUB	1	0	4	0	5	10
MED>MAS=SUB	3	7	8	(11)	2	(31)
SUB>MED=MAS	2	0	3	2	2	9
MED=SUB=MAS	1	0	5	2	3	11
TOTAL N	47	47	47	47	47	235
Kolmogorov-Smirnov D	.22	.39	.20	.30	.23	.14
assoc. p	<.05	<.01	<.05	<.01	<.05	<.01

( ) indicates patterns achieving a proportion of the sample yielding a Chi-square value with an associated p <.001

Singularly distinct dominant patterns emerged for items 2, 4 and 9. In the case of the other items however, more than one pattern met the second criteria for dominance. Three patterns were considered to be dominant for item 11 and two for item 15 and the total of items.

Examination of the multiple dominant patterns for each item and the dimensional total in the context of the distance concept as previously described reveals that they are all close in terms of the distance concept. In the case of the total dimension the two dominant patterns were identified as MED>MAS>SUB and MED>MAS=SUB. Table 17 which relates possible patterns in terms of logical difference indicates that these patterns are within half logical distance of each other. If desired it would seem that these two patterns could be amalgamated as MED>MAS=SUB . If this is done, then the value orientation described specifies that the Mediationary position is preferred over both the Mastery and the Subjectivity positions, which are not preferred over each other.

Due to the constraints imposed by the criteria set for dominance, it is considered necessary that this amalgamation technique is applied whenever two or more patterns are identified as being dominant *and* when the nature of these patterns is such that there is not more than one half logical distance between them. This technique will only be applied when it is necessary to speak about a single dominant pattern for an item or dimension.

Dispositional dimension. This value orientation area is summarized in Table 24. As is indicated the distribution of pattern preferences for item 12 did not meet the first criterion. Item 12 is eliminated from consideration in subsequent pattern frequency analyses.

All the remaining items and the total dimension scores met or exceeded the criterion for distribution. In the case of the dimension totals, two columns are included in Table 24, one of which provides totals for all items less item 12, and this latter column is taken as representing the dimension distributions. A single dominant pattern is identified for items 3,6 and 8, and two dominant patterns are indicated for item 14 and the overall dimension. In the latter two cases the patterns are capable of amalgamation to yield a dominant pattern of LAT>IND=LIN .

Summary. The dominant patterns established for each item and dimension are summarized in Table 25.

Preference Score Analysis for the Determination of Dominant Patterns

This mode of analysis identifies dominant patterns by a consideration of the position preference (sub-scale) means. It has the characteristic of identifying a single dominant pattern for any given dimension or item. No criteria were set for the determination of dominant patterns by this method. However, dominant patterns obtained by other procedures can be compared against the dominant patterns yielded by pattern frequency analysis. Congruency of dominant patterns would appear to provide confidence in the accuracy of this procedure.

TABLE 24

PATTERN PREFERENCES OF ALL RESPONDENTS FOR EACH OF THE DISPOSITIONAL ITEMS

Possible Patterns	Items 3	6	8	12	14	Total	Total less #12
LAT>IND>LIN	(16)	1.	3	7	(11)	(38)	(31)
LAT>LIN>IND	3	3	9	2	(12)	30	(28)
IND>LAT>LIN	6	(13)	0	9	5	(33)	24
IND>LIN>LAT	3	9	0	1	1	14	13
LIN>IND>LAT	1	1	1	9	6	18	9
LIN>LAT>IND	4	1	(20)	6	0	(31)	25
LAT=LIN>IND	3	1	10	1	2	17	16
LAT=IND>LIN	0	1	1	2	1	5	3
LIN=IND>LAT	1	4	1	2	0	8	6
LAT>LIN=IND	5	3	1	2	7	18	16
LIN>LAT=IND	1	2	0	1	1	5	4
IND>LAT=LIN	2	6	0	3	1	12	9
LAT>IND=LIN	2	1	1	2	0	6	4
Total N	47	47	47	47	47	235	188
Kolmogorov-Smirnov D.	.20 <.05	.20 <.05	.32 <.01	.19 <.10	.29 <.01	.14 <.01	

( ) indicates patterns achieving a propotion of the sample yielding a Chi-square value with an associated $p<.001$

TABLE 25

COMPARISON OF DOMINANT PATTERNS YIELDED BY PATTERN FREQUENCY AND PREFERENCE SCORE ANALYSES

Value orientation and items.		Dominant patterns yielded by pattern frequency analysis.	Dominant patterns yielded by preference score analysis.	Distance difference.
FOCAL	1	PRO>TAS>PRG	PRO>TAS>PRG	0
	5	PRO>TAS>PRG	PRO>TAS>PRG	0
	7	PRO>TAS>PRG	PRO>TAS>PRG	0
	10	PRO>PRG>TAS	PRO>PRG>TAS	0
	13	PRO>TAS>PRG	PRO>TAS>PRG	0
	Total	PRO>TAS>PRG	PRO>TAS>PRG	0
RELATIONAL	2	SUB>MAS>MED	SUB>MAS>MED	0
	4	MED>MAS>SUB	MED>MAS>SUB	0
	9	MAS>MED>SUB	MAS>MED>SUB	0
	11	MED>MAS=SUB*	MED>SUB>MAS	½
	15	MAS=SUB>MED*	MAS>SUB>MED	½
	Total	MED>MAS=SUB*	MED>MAS>SUB	½
DISPOSITIONAL	3	LAT>IND>LIN	LAT>IND>LIN	0
	6	IND>LAT>LIN	IND>LAT>LIN	0
	8	LIN>LAT>IND	LIN>LAT>IND	0
	12	(IND>LAT>LIN/ LIN>LAT>IND)	IND>LAT>LIN	0/3
	14	LAT>LIN=IND*	LAT>IND>LIN	½
	Total	(LAT=IND>LIN*/ LIN>LAT>IND)	LAT>IND>LIN	½/2
	Total less #12	LAT>LIN=IND*	LAT>IND>LIN	½

Asterisks identify dominant patterns achieved by combination of two or more patterns achieving a significant proportion of possible responses ($p<.001$).
Brackets indicate incompatible patterns.

Dominant patterns obtained by this method are given in Table 25.

An example of the method of preference score analysis may be seen by examining the means for item 1 indicated in Table 21 and the dominant patterns given by this method for item 1 in Table 25. As may be seen the means for item 1 are ranked in magnitude such that PRO>TAS>PRG , and this is the dominant pattern indicated for this item in Table 25.

Comparison of Dominant Patterns as Yielded by Pattern Frequency and Preference Score Procedures

Table 25 compares the dominant patterns yielded by both methods of analysis. The distance concept is utilized in this table to indicate the degree of agreement between the value orientations yielded by the two methods. As may be seen, the two methods identified identical patterns for twelve of the eighteen items and dimensions. In five of those cases where there is not complete agreement between the two methods, the distance between the patterns yielded is one half of a logical distance. In all of these cases this small disagreement may be seen as resulting from the amalgamation of multiple dominant patterns identified by the pattern frequency analysis method. These five cases where there is not complete agreement between the dominant patterns yielded by the two methods of analysis are items 11 and 15 in the Relational dimension, the Relational dimension total, item 14 in the Dispositional dimension and the Dispositional dimension total with item 12 excluded. If the numbers of respondents choosing patterns as indicated in Tables 23 and 24 is considered, then it can be seen that for four of the

five items in question the single pattern selected by the highest proportion of respondents is identical to the dominant pattern obtained by preference score analysis as indicated in Table 25.

For example, the value orientation pattern chosen by the majority of respondents to item 11 is MED>SUB>MAS, which is the same dominant pattern for that item as obtained by preference score analysis. However, this item also produced two other patterns which were selected by a significant number of respondents. The amalgamation procedure adopted in the pattern frequency analysis calls for a comparison of the three dominant patterns obtained to determine the logical distance between them. This comparison indicated that the three patterns are all within a half logical distance of one another. Consequently, these patterns were amalgamated to produce a *single* dominant pattern for item 11. This single pattern (MED>MAS=SUB) is itself a half logical distance from the dominant pattern yielded by preference score analysis.

It may be seen, therefore, that several interpretations may be placed on these findings. In the context of the original Kluckhohn theory of dominant and variant value orientations, the three significant patterns that emerged for item 12 through the pattern frequency analysis may be seen as dominant and variant patterns. Distinction between these patterns could be made on the basis of relative preference by respondents . This approach would view the pattern MED>SUB>MAS as dominant and the patterns MED>MAS>SUB and MED>MAS=SUB as variant. However, the other patterns that were selected by respondents could be ignored if this approach were adopted.

This is seen as undesirable as strict interpretation of the Kluckhohn theory would indicate that all patterns that are selected by respondents should be considered.

The procedure adopted in the present analysis is that of amalgamating all patterns determined by pattern frequency analysis that meet criteria for significance if they are within a one distance difference. The amalgamated pattern thus obtained is considered dominant, and all other patterns selected by respondents are considered variant. This procedure is adopted primarily due to the investigatory nature of the present analysis where the instrument is the prime focus of concern. In hypothesis testing and descriptive studies investigating value orientations of school organization members, another procedure could be considered more apt.

An advantage of the amalgamation procedure is indicated in Table 24 which provides pattern preference analysis results for the Dispositional dimension. This table indicates that two patterns met criteria for significance for item 14. However, the numbers of respondents selecting these two patterns are almost identical, one being chosen by eleven respondents and the other by twelve. Indentification of one of these patterns as dominant over the other is considered to be fraught with difficulties. Amalgamation would appear desirable. It can be noted that it is this item that does not yield the *majority* preferred pattern on the pattern obtained by preference score analysis. Nevetheless the intimacy of the dominant patterns obtained by the two methods is evident.

There are two cases where a severe difference is noted in the

dominant patterns obtained by the two modes of analysis. In the case of item 12, the two patterns shown for that item as determined by pattern frequency analysis cannot be regarded as dominant as neither met the necessary criteria. These patterns were included in Table 25 as simple majority preferred patterns. As may be seen, there is the maximum possible logical distance between these two patterns. However, the pattern identified by preference score analysis is in agreement with one of these conflicting patterns. This suggests that the dominant pattern for item 12 could be best identified as IND>LAT>LIN, which is the single pattern identified by the preference score method.

The other incompatability that may be noted is in the case of the Dispositional pattern, to which item 12 contributes. The comments made in connection with item 12 itself would appear appropriate here, which leads to a conclusion that the two patterns independently identified by the different methods, and which are only half a logical distance apart, may be seen as representative of the dominant patterns for the total Dispositional dimension.

Conclusion. Several specific conclusions from the discussion may be articulated;

1. The preference score analysis procedure appears viable and accurate and has the quality of providing a single dominant pattern for items and dimensions.

2. The pattern frequency analysis procedure allows the identification of more than one dominant pattern for each item, and as such may be a valuable tool for investigation of significant variant patterns.

3. The dominant patterns yielded by the two methods are substantially congruent.

4. A total description of the dominant patterns yielded by the two methods is provided in Table 25.

DIFFERENTIAL ANALYSIS

The four hypotheses stated at the conclusion of Chapter 5 were utilized to guide the investigation of difference between the value orientations of respondents in the pilot study. Two procedures as previously described were employed to test for differences. Results obtained by each procedure will be considered in turn.

Proportional Differences

This mode of investigation is based on the proportion of respondents within a determined group choosing the determined dominant pattern for each item and dimension. In this case, dominant patterns are those obtained by the pattern frequency analysis procedure, and thus amalgamated patterns are given as dominant in some cases.

Dominant patterns for all items and dimensions are given under the appropriate heading in Table 25.

In addition to an investigation of the subgroups of respondents required by the stated hypotheses, additional sub-groups were defined and investigated as previously noted. These groups are indicated, together with the relevant statistics associated with this mode of analysis, in Tables 26 through 31.

Value Orientation Preferences of
Societally Differentiated Respondents

Tables 26, 27 and 28 consider the proportion of respondents differentiated by sex, nationality, employed location and attitude to the Alberta education system selecting the determined dominant patterns for items in each of the three dimensions. Hypotheses I, II and III direct attention to the groups differentiated by employed location, sex and nationality.

For each differentiated group of respondents the proportion of respondents within that group choosing the determined dominant pattern for an item or dimension is indicated. A Chi-square statistic for the difference between these actual proportions and the expected proportions under a normal distribution is given for each group and each item and dimension. The letter 'm' following a proportion indicates that this proportion represents the majority preference of respondents.

Focal dimension. Table 26 shows that a significant difference (Chi-square with associated $p<.05$) was found between male and female respondents on item 5 and on the total Focal dimension. A significant difference was also found between rural and urban respondents on item 10, and between satisfied and dissatisfied respondents on item 1.

Relational dimension. Table 27 indicates that the preference of male and female respondents for the determined dominant value orientations found for items 9 and 15 were significantly different. A significant difference was also found between the preference of satisfied and

TABLE 26

PROPORTION OF MALE, FEMALE, CANADIAN, NON-CANADIAN, RURAL, URBAN AND SATISFIED, DISSATISFIED RESPONDENTS CHOOSING DETERMINED DOMINANT PATTERNS ON FOCAL ITEMS

		Focal Items and Determined Dominant Patterns.					
GROUP	N	1 PRO>TAS>PRG	5 PRO>TAS>PRG	7 PRO>TAS>PRG	10 PRO>PRG>TAS	13 PRO>TAS>PRG	TOTAL PRO>TAS>PRG
Male	30	.767m	.533m	.233m	.300m	.467m	.433
Female	17	.941m	.824m	.353m	.553m	.706m	.600
Chi-square		1.27	3.96*	.293	.140	2.512	6.03*
Canadian	35	.857m	.714m	.258m	.400m	.600m	.491
Other	12	.750m	.417m	.333m	.167	.417m	.450
Chi-square		.166	3.43	.019	2.177	1.22	.307
Rural	15	.867m	.600m	.267m	.133	.467m	.493
Urban	27	.815m	.704m	.296m	.444m	.630m	.511
Chi-square		.000	.467	.314	4.20*	1.05	.061
Satisfied	30	.867m	.733m	.267m	.300m	.567m	.513
Dissatisfied	17	.588m	.471m	.235m	.294m	.471m	.388
Chi-square		4.70*	3.25	.012	.001	.402	3.416

'm' indicates a majority proportion.
* indicates Chi-square values with an associated $p<.05$.

TABLE 27

PROPORTION OF MALE, FEMALE, CANADIAN, NON-CANADIAN, RURAL, URBAN AND SATISFIED, DISSATISFIED RESPONDENTS CHOOSING DETERMINED DOMINANT PATTERNS ON THE RELATIONAL ITEMS

		Relational Items and Determined Dominant Patterns.					
GROUP	N	2 SUB>MAS>MED	4 MED>MAS>SUB	9 MAS>MED>SUB	11 MED>SUB=MAS	15 MAS=SUB>MED	TOTAL MED>MAS=SUB
Male	30	.267m	.433m	.367m	.767m	.367m	.407
Female	17	.294m	.588m	.059	.882m	.706m	.424
Chi-square		.018	.514	3.91*	.339	4.99*	.006
Canadian	35	.371m	.571m	.342m	.857m	.543m	.423
Other	12	.083	.334m	.083	.667m	.833m	.367
Chi-square		2.30	2.03	1.85	1.04	2.08	.584
Rural	15	.333m	.467m	.176m	.733m	.667m	.413
Urban	27	.260	.482m	.333m	.852m	.592m	.407
Chi-square		.012	.008	.268	.278	.224	.007
Satisfied	30	.333m	.634m	.233	.800m	.533m	.387
Dissatisfied	17	.118	.177	.235m	.647m	.529m	.271
Chi-square		3.38	6.49*	.118	.652	.000	3.23

'm' indicates a majority proportion.
'*' identifies Chi-square values with an associated $p<.05$.

TABLE 28

PROPORTION OF MALE, FEMALE, CANADIAN, NON-CANADIAN, RURAL, URBAN, AND SATISFIED, DISSATISFIED RESPONDENTS CHOOSING DETERMINED DOMINANT PATTERNS ON DISPOSITIONAL ITEMS

		Dispositional Items and Determined Dominant Patterns.				
GROUP	N	3 LAT>IND>LIN	6 IND>LAT>LIN	8 LIN>LAT>IND	14 LAT>LIN=IND	TOTAL LAT>LIN=IND
Male	30	.400m	.233m	.333m	.500m	.408
Female	17	.235m	.353m	.588m	.706m	.338
Chi-square		1.31	.293	2.88	1.88	.903
Canadian	35	.314m	.314m	.429m	.574m	.393
Other	12	.417m	.250m	.333m	.750m	.479
Chi-square		.056	.003	.005	.568	1.09
Rural	15	.267m	.333m	.467m	.733m	.433
Urban	27	.407m	.259	.370m	.593m	.389
Chi-square		.832	.023	.371	.832	.316
Satisfied	30	.267m	.367m	.467m	.667m	.400
Dissatisfied	17	.412m	.118	.118	.471m	.353
Chi-square		1.05	2.23	5.89*	1.73	.407

'm' indicates a majority pattern.
'*' identifies Chi-square values with an associated $p<.05$.

dissatisfied respondents on item 4.

Dispositional dimension. Table 28 identifies only one significant difference for the preference for dominant patterns. This difference was found between those respondents that were satisfied or dissatisfied with the Alberta educational system and was obtained on item 8.

Summary. The reported findings allow the hypotheses I and II to be rejected. Hypothesis I, which is concerned with differences between value orientations of rural and urban respondents, was rejected on the basis of a single significant difference in value orientation as found in item 10, which is within the Focal dimension. Hypothesis II is rejected as a result of value orientation differences within both the Focal and Relational dimensions. There are no grounds for the rejection of hypotheses I and II within the Dispositional dimension.

As no differences were found between Canadian and non-Canadian respondent preferences for the determined dominant patterns, hypothesis III was accepted at this time.

Value Orientation Preferences of Behavioral Sphere Differentiated Respondents

Tables 29, 30 and 31 summarize the preferences of teachers, administrators and university students for the determined dominant patterns associated with each item.

Focal dimension. Significant differences of preference for determined dominant patterns were found between teachers and administrators for

TABLE 29

PROPORTION OF TEACHERS, ADMINISTRATORS AND UNIVERSITY PERSONNEL CHOOSING DETERMINED DOMINANT PATTERNS ON FOCAL ITEMS

GROUP	N	Focal Items and Determined Dominant Patterns. 1 PRO>TAS>PRG	5 PRO>TAS>PRG	7 PRO>TAS>PRG	10 PRO>PRG>TAS	13 PRO>TAS>PRG	TOTAL PRO>TAS>PRG
Teachers	17	1.00m	.882m	.471m	.353m	.706m	.659
Administrators	13	.769m	.385m	.231m	.308m	.308m	.369
Chi-square		2.172	8.21*	.938	.017	4.69*	12.41*
Teachers	17	1.00m	.882m	.471m	.353m	.706m	.659
University	13	.692m	.538m	.076	.308m	.538m	.400
Chi-square		3.67	2.87	3.723	.017	.890	9.96*
Administrators	13	.769m	.385m	.231m	.308m	.308m	.369
University	13	.692m	.538m	.076	.308m	.538m	.400
Chi-Square		.000	.620	.295	.000	1.42	.130

'm' indicates a majority proportion.
'*' indicates Chi-square values with an associated $p<.05$

items 5 and 13, and the total Focal dimension. These are indicated in Table 29. A significant difference was also found between the total Focal pattern preference for teachers and university students.

Relational dimension. Table 30 displays the proportion of teachers, administrators and university students choosing determined dominant patterns within the Relational dimension. As may be seen, no significant differences of preference were obtained.

Dispositional dimension. A single significant difference within the Dispositional dimension, as indicated in Table 31, was obtained. This difference was between the proportion of teachers and university students preferring the determined dominant pattern for item 8.

Summary. Hypothesis IV is rejected on the basis that significant differences in the preferences for dominant value orientations of teachers and administrators were obtained within the Focal dimension. No significant differences were attained within either the Relational or Dispositional dimensions.

Preference Score Differences

Differences in value orientation of respondents were also investigated through an examination of preference score means. The full procedure and determined criteria for significant differences were explained in the previous chapter. To summarize, the dominant value orientation patterns for respondents in each sub group were determined by a comparison of the means obtained for each sub-scale within items and dimensions. It was determined that if the dominant

TABLE 30

PROPORTION OF TEACHERS, ADMINISTRATORS AND UNIVERSITY PERSONNEL CHOOSING DETERMINED DOMINANT PATTERNS ON RELATIONAL ITEMS

		Relational Items and Determined Dominant Patterns.					
		2	4	9	11	15	TOTAL
GROUP	N	SUB>MAS>MED	MED>MAS>SUB	MAS>MED>SUB	MED>SUB=MAS	MAS=SUB>MED	MED>MAS=SUB
Teachers	17	.294m	.471m	.118	.882m	.697m	.376
Administrators	13	.385m	.385	.462m	.846m	.692m	.369
Chi-square		.017	.222	2.87	.064	.017	.008
Teachers	17	.294m	.471m	.118	.882m	.697m	.376
University	13	.231	.538m	.308m	.692m	.615m	.415
Chi-square		.000	.136	.687	.687	.042	.234
Administrators	13	.385m	.385	.462m	.846m	.692m	.369
University	13	.231	.538m	.308m	.692m	.615m	.415
Chi-square		.181	.619	.162	.217	.016	.290

'm' indicates a majority proportion.

TABLE 31

PROPORTION OF TEACHERS, ADMINISTRATORS AND UNIVERSITY PERSONNEL CHOOSING DETERMINED DOMINANT PATTERNS ON DISPOSITIONAL ITEMS

GROUP	N	Dispositional Items and Determined Dominant Patterns. 3 LAT>IND>LIN	6 IND>LAT>LIN	8 LIN>LAT>IND	12	14 LAT>LIN=IND	TOTAL LAT>LIN=IND
Teachers	17	.352m	.352m	.647m	No significantly dominant pattern.	.765m	.353
Administrators	13	.385m	.308m	.385		.692m	.481
Chi-square		.314	.017	2.04		.741	1.99
Teachers	17	.352m	.352m	.647m		.765m	.353
University	13	.231m	.154	.154		.462m	.385
Chi-square		.103	.649	7.30*		2.92	.127
Administrators	13	.385m	.308m	.385		.692m	.481
University	13	.231m	.154	.154		.462m	.385
Chi-square		.181	.267	.782		1.42	1.43

'm' indicates a majority proportion.
'*' identifies Chi-square values with an associated $p<.05$

patterns obtained for two groups exhibited a logical distance difference of *more than one*, then the patterns were to be considered significantly different.

Within pattern preferences are also tested by the application of *t*-tests between means. A *t*-ratio with an associated probability of <.05 is considered significant. However, this difference is a *within*-pattern difference. For the purposes of testing the stated hypotheses, it is considered necessary to concentrate on *between*-pattern differences. It was determined that patterns would be considered significantly different if a within pattern *t*-ratio with a probability of <.05 is attained between value orientation patterns of respondents that are also *one* logical distance apart.

Two criteria for significant between-pattern differences are thus determined. Either patterns must have a *greater* than one logical distance between them, or have a one distance difference together with a significant within-pattern difference.

Findings. Tables 32 through 35 report all the findings of the analysis of preference score means. Each table considers all instrument items and dimension totals for two specified sub-groups of respondents. Each table will be considered in turn.

Rural and urban value orientations. Eleven value orientation differences are indicated in Table 34, for rural and urban groups, including a pattern difference for the Dispositional dimension total. Of these eleven differences, two meet criteria for significant between-pattern

TABLE 32

PREFERENCE SCORES AND ASSOCIATED PATTERNS FOR MALES AND FEMALES FOR ALL ITEMS AND AREA TOTALS

ITEM	MALE				FEMALE				
F	PRO	TAS	PRG	PATTERN	PRO	TAS	PRG	PATTERN	DISTANCE
1	4.50	3.57	2.03	PRO>TAS>PRG	4.82	3.47	1.76	PRO>TAS>PRG	0
5	4.43	3.43	2.07	PRO>TAS>PRG	4.53	3.18	1.71	PRO>TAS>PRG	0
7	3.93	3.60	2.83	PRO>TAS>PRG	3.94	3.76	2.65	PRO>TAS>PRG	0
10	3.87	2.70	3.27	PRO>PRG>TAS	4.29	2.59	2.94	PRO>PRG>TAS	0
13	4.30	3.40	2.47	PRO>TAS>PRG	4.53	3.18	2.18	PRO>TAS>PRG	0
TOTAL	21.03	16.70	12.67	PRO>TAS>PRG	22.11	16.18	11.24	PRO>TAS>PRG	0
R	MED	MAS	SUB	PATTERN	MED	MAS	SUB	PATTERN	DISTANCE
2*	2.87	3.50	4.03	SUB>MAS>MED	3.12	3.88	3.82	MAS>SUB>MED	1
4*	4.53	*2.33*	1.57	MED>*MAS*>SUB	4.35	*3.63*	1.35	MED>*MAS*>SUB	0
9*	3.40	4.03	*2.77*	MAS>MED>*SUB*	3.94	3.59	*3.69*	MED>MAS=*SUB*	1½
11*	4.30	2.83	2.77	MED>MAS>SUB	4.47	2.88	3.12	MED>SUB>MAS	1
15	2.43	3.63	3.10	MAS>SUB>MED	2.24	3.35	3.06	MAS>SUB>MED	0
TOTAL	17.63	16.32	14.24	MED>MAS>SUB	18.12	17.12	14.94	MED>MAS>SUB	0
D	LAT	LIN	IND	PATTERN	LAT	LIN	IND	PATTERN	DISTANCE
3	3.67	2.23	2.93	LAT>IND>LIN	3.35	2.76	2.94	LAT>IND>LIN	0
6*	2.73	2.63	3.73	IND>LAT>LIN	2.82	2.71	3.94	IND>LAT>LIN	0
8*	3.80	3.80	2.03	LAT=LIN>IND	3.65	4.00	2.06	LIN>LAT>IND	½
12*	3.23	*3.43*	3.33	*LIN*>IND>LAT	3.06	*2.47*	3.53	IND>LAT>*LIN*	2
14*	4.00	2.70	2.73	LAT>IND>LIN	3.94	2.53	2.35	LAT>LIN>IND	1
TOTAL*	17.43	14.79	14.75	LAT>LIN>IND	17.17	14.12	14.82	LAT>IND>LIN	1

'*' identifies items in which differences were obtained.
Italics indicate a t ratio with an associated $p<.05$ (two-tailed) between preference scores.

TABLE 33

PREFERENCE SCORES AND ASSOCIATED PATTERNS FOR CANADIAN AND NON-CANADIAN RESPONDENTS FOR ALL ITEMS AND AREA TOTALS

ITEM	CANADIANS				NON-CANADIANS				
F	PRO	TAS	PRG	PATTERN	PRO	TAS	PRG	PATTERN	DISTANCE
1	4.71	3.62	2.00	PRO>TAS>PRG	4.33	3.33	1.75	PRO>TAS>PRG	0
5	4.56	3.62	2.03	PRO>TAS>PRG	4.25	3.17	1.67	PRO>TAS>PRG	0
7	3.88	3.71	2.79	PRO>TAS>PRG	4.00	3.58	2.75	PRO>TAS>PRG	0
10*	4.03	*2.47*	*3,38*	PRO>*PRG*>*TAS*	4.00	*3.25*	*2.58*	PRO>*TAS*>*PRG*	1
13	4.41	3.38	2.38	PRO>TAS>PRG	4.25	3.17	2.33	PRO>TAS>PRG	0
TOTAL	21.59	16.59	12.58	PRO>TAS>PRG	20.83	16.50	11.08	PRO>TAS>PRG	0
R	MED	MAS	SUB	PATTERN	MED	MAS	SUB	PATTERN	DISTANCE
2*	2.91	3.65	*4.18*	*SUB*>MAS>MED	3.17	3.58	*3.42*	MAS>*SUB*>MED	1
4*	*4.59*	2.59	1.53	*MED*>MAS>SUB	*4.17*	3.08	1.42	*MED*>MAS>SUB	0
9	3.71	3.97	3.12	MAS>MED>SUB	3.50	3.58	2.83	MAS>MED>SUB	0
11*	4.41	3.76	2.76	MED>MAS=SUB	4.17	3.00	3.25	MED>SUB>MAS	½
15*	2.44	3.44	3.21	MAS>SUB>MED	1.92	3.75	3.75	MAS=SUB>MED	½
TOTAL*	18.06	16.41	14.80	MED>MAS>SUB	16.93	16.99	14.67	MAS>MED>SUB	1
D	LAT	LIN	IND	PATTERN	LAT	LIN	IND	PATTERN	DISTANCE
3	3.53	2.53	2.85	LAT>IND>LIN	3.58	2.17	3.17	LAT>IND>LIN	0
6*	2.68	2.50	*4.00*	*IND*>LAT>LIN	3.08	3.00	*3.25*	*IND*>LAT>LIN	0
8*	3.74	3.91	2.09	LIN>LAT>IND	3.75	3.67	1.92	LAT>LIN>IND	1
12*	3.09	2.97	3.53	IND>LAT>LIN	3.42	3.50	3.08	LIN>LAT>IND	3
14*	3.88	2.71	2.47	LAT>LIN>IND	4.25	2.50	3.00	LAT>IND>LIN	1
TOTAL*	16.92	14.62	14.94	LAT>IND>LIN	18.08	14.85	14.42	LAT>LIN>IND	1

Asterisks identify items in which differences were obtained.
Italics indicate a t ratio with an associated $p<.05$ (two-tailed) between preference scores.
Distance column indicates severity of pattern difference.
Underlining indicates significantly different patterns.

TABLE 34

PREFERENCE SCORES AND ASSOCIATED PATTERNS FOR RURAL AND URBAN RESIDENTS FOR ALL ITEMS AND AREA TOTALS

ITEM	RURAL				URBAN				
F	PRO	TAS	PRG	PATTERN	PRO	TAS	PRG	PATTERN	DISTANCE
1	4.80	3.67	2.07	PRO>TAS>PRG	4.52	3.44	1.74	PRO>TAS>PRG	0
5*	4.33	*3.73*	2.00	PRO>*TAS*>PRG	4.52	*3.11*	1.89	PRO>*TAS*>PRG	0
7	3.93	3.60	2.80	PRO>TAS>PRG	4.00	3.59	2.74	PRO>TAS>PRG	0
10	3.87	2.93	3.07	PRO>PRG>TAS	4.11	2.44	3.19	PRO>PRG>TAS	0
13	4.33	3.13	2.60	PRO>TAS>PRG	4.44	3.48	2.26	PRO>TAS>PRG	0
TOTAL	21.26	17.06	12.54	PRO>TAS>PRG	21.59	16.06	11.82	PRO>TAS>PRG	0
R	MED	MAS	SUB	PATTERN	MED	MAS	SUB	PATTERN	DISTANCE
2	3.00	3.73	4.00	SUB>MAS>MED	2.81	3.59	4.00	SUB>MAS>MED	0
4*	4.67	2.87	*1.80*	MED>MAS>*SUB*	4.37	2.70	*1.37*	MED>MAS>*SUB*	0
9*	3.73	3.73	3.07	MED=MAS>SUB	3.56	4.04	2.93	MAS>MED>SUB	½
11*	4.13	*3.27*	*3.13*	MED>*MAS*>*SUB*	4.44	*2.52*	*2.56*	MED>*SUB*>*MAS*	1
15*	2.47	3.53	*2.67*	MAS>*SUB*>MED	2.33	3.52	*3.22*	MAS>*SUB*>MED	0
TOTAL	18.00	17.13	14.67	MED>MAS>SUB	17.51	16.37	14.08	MED>MAS>SUB	0
D	LAT	LIN	IND	PATTERN	LAT	LIN	IND	PATTERN	DISTANCE
3*	3.87	2.87	2.80	LAT>LIN>IND	3.48	2.22	2.85	LAT>IND>LIN	1
6*	*3.13*	2.80	3.60	IND>*LAT*>LIN	*2.44*	2.59	3.96	IND>LIN>*LAT*	1
8*	3.73	3.67	2.13	LAT>LIN>IND	3.78	4.00	2.07	LIN>LAT>IND	1
12*	2.93	2.93	3.27	IND>LAT=LIN	3.37	3.07	3.59	IND>LAT>LIN	½
14*	4.27	2.80	2.67	LAT>LIN>IND	3.78	2.48	2.56	LAT>IND>LIN	1
TOTAL*	17.93	15.07	14.47	LAT>LIN>IND	16.85	14.36	15.03	LAT>IND>LIN	1

Asterisks identify items in which differences were obtained.
Italics indicate a t ratio with an associated $p<.05$ (two-tailed) between preference scores.
Distance column indicates severity of pattern difference.
Underlining indicates significantly different patterns.

differences, (items 11 and 6).

On the basis of these significant differences, hypothesis I is rejected.

Male and female value orientations. Table 32 considers the value orientations of male and female respondents as obtained by comparison of preference score means. Differences were obtained in a total of eight items, and one total dimension. Four items were within the Relational dimension and four within the Dispositional. The total dimension difference was found for the Dispositional dimension. Two of the eight differences observed were considered significant. These were obtained on items 9 and 12, the different value orientations obtained for these items being both greater than a one logical distance apart, and exhibiting significant within-pattern differences.

On the basis of these significant differences, hypothesis II is rejected.

Canadian and non-Canadian value orientations. Table 33 shows that nine items produced different patterns between Canadian and non-Canadian respondents. Four of these differences are accounted for by between-pattern differences that do not meet criteria for significance. Two differences are significant within-pattern differences equal or greater than one. The remaining three differences are considered significant between-pattern differences. These were obtained on items 10 (Focal) 2 (Relational) and 12 (Dispositional).

Non significant between-pattern differences were also observed for the Relational and Dispositional dimension totals.

In the light of the three significant between pattern differences, hypothesis II is rejected.

Teacher and administrator value orientations. Table 35 indicates ten differences in the value orientation patterns of teacher and administrator respondents. The differences obtained for items 9 and 12 meet criteria for significance. These items are within the Relational and Dispositional dimensions respectively.

On the basis of these significant differences, hypothesis IV is rejected.

OVERVIEW

As described in the previous chapter, the preceding analyses of difference between the value orientation patterns obtained by differentiated groups responding to the pilot administration of the OVIS was performed for two major purposes:

1. To provide examples of how differences in the value orientation patterns yielded by the OVIS may be investigated, and,
2. To provide an estimate of the validity of the OVIS by investigating the degree to which predicted differences in value orientations would be found by analysis.

It is considered that a full discussion of the nature and the implications of the differences found and reported is without the limitations of the present study.

Models for Analysis of Differences

The discussion of the procedures adopted for the investigation

TABLE 35

PREFERENCE SCORES AND ASSOCIATED PATTERNS FOR TEACHERS AND ADMINISTRATORS FOR ALL ITEMS AND AREA TOTALS

ITEM	TEACHERS				ADMINISTRATORS				
F	PRO	TAS	PRG	PATTERN	PRO	TAS	PRG	PATTERN	DISTANCE
1	4.94	3.47	1.88	PRO>TAS>PRG	4.69	3.77	2.15	PRO>TAS>PRG	0
5*	4.71	3.18	*1.59*	PRO>TAS>*PRG*	4.38	3.69	*2.46*	PRO>TAS>*PRG*	0
7	4.12	3.82	2.59	PRO>TAS>PRG	3.92	3.62	3.00	PRO>TAS>PRG	0
10	4.29	2.59	3.06	PRO>PRG>TAS	3.85	2.92	3.46	PRO>PRG>TAS	0
13*	4.65	3.24	*2.06*	PRO>TAS>*PRG*	4.23	3.31	*2.85*	PRO>TAS>*PRG*	0
TOTAL	22.71	16.30	11.18	PRO>TAS>PRG	21.07	17.31	13.92	PRO>TAS>PRG	0
R	MED	MAS	SUB	PATTERN	MED	MAS	SUB	PATTERN	DISTANCE
2*	3.12	4.00	3.82	MAS>SUB>MED	3.08	3.77	4.23	SUB>MAS>MED	1
4*	4.53	*3.41*	1.47	MED>*MAS*>SUB	4.62	*2.08*	1.85	MED>*MAS*>SUB	0
9*	3.88	*3.71*	3.47	MED>*MAS*>SUB	3.69	*4.31*	2.85	*MAS*>MED>SUB	1
11*	4.59	2.88	3.24	MED>SUB>MAS	4.38	3.00	2.77	MED>MAS>SUB	1
15*	2.71	3.47	3.47	MAS=SUB>MED	2.31	3.92	3.08	MAS>SUB>MED	½
TOTAL	18.83	17.47	15.47	MED>MAS>SUB	18.08	17.13	14.78	MED>MAS>SUB	0
D	LAT	LIN	IND	PATTERN	LAT	LIN	IND	PATTERN	DISTANCE
3	3.71	2.82	3.06	LAT>IND>LIN	3.85	2.62	2.69	LAT>IND>LIN	0
6	2.71	2.53	4.12	IND>LAT>LIN	2.85	2.62	4.00	IND>LAT>LIN	0
8*	3.59	4.24	2.06	LIN>LAT>IND	3.77	3.77	2.15	LAT=LIN>IND	½
12*	2.82	2.71	3.71	IND>LAT>LIN	3.08	3.31	3.08	LIN>IND=LAT	2½
14	4.12	2.53	2.35	LAT>LIN>IND	4.23	3.31	2.15	LAT>LIN>IND	0
TOTAL*	16.95	14.83	15.30	LAT>IND>LIN	17.78	15.63	14.07	LAT>LIN>IND	1

Asterisks identify items on which differences were obtained.
Italics indicate a *t* ratio with an associated $p < .05$ (two-tailed) between preference scores.
Distance column indicates severity of pattern difference.
Underlining indicates significantly different patterns.

of differences in the present study which were advanced in this chapter and the preceding chapter provide an indication of how differences may be investigated. These are considered indicative of ways in which investigation into differences may be conducted and are seen as being in no way prescriptive. The tables presented in this chapter summarize the findings of the two modes of investigation adopted.

Predictive Validity

In order to obtain an estimate of the predictive validity of the OVIS, four hypotheses were stated in Chapter 5. These hypotheses were tested in this chapter. Each hypothesis was stated in null form, and each hypothesis was rejected during the course of the development of this chapter. The grounds for the rejection of these hypotheses are summarized in Table 36. This table indicates that the Pattern Frequency mode of analysis provided for the rejection of hypotheses I, II and IV, while the Preference Score analysis method allowed for all four hypotheses to be rejected.

Hypothesis I, that there would be no significant differences between the value orientations of rural and urban school organization members was rejected on the basis of significant differences in the preference of respondents for the dominant value orientation pattern ascertained for item 10 within the Focal dimension, and on the basis of significantly different value orientations being determined for rural and urban school organization members responding to items 6 and 11. These items were within the Dispositional and Relational

TABLE 36

ITEMS CONTRIBUTING TO THE REJECTION OF STATED HYPOTHESES

Dimension and item	Hypotheses rejected through Pattern Preference Analysis				Hypotheses rejected through Preference Score Analysis			
FOCAL	I	II	III	IV	I	II	III	IV
1	-	-	-	-	-	-	-	-
5*	-	R	-	R	d	-	-	d
7	-	-	-	-	-	-	-	-
10*	R	-	-	-	-	-	R	-
13*	-	-	-	R	-	-	-	d
RELATIONAL								
2*	-	-	-	-	-	d	R	d
4	-	-	-	-	d	d	d	d
9*	-	R	-	-	d	R	-	R
11*	-	-	-	-	R	d	d	d
15*	-	R	-	-	d	-	d	d
DISPOSITIONAL								
3	-	-	-	-	d	-	-	-
6*	-	-	-	-	R	d	d	d
8	-	-	-	-	d	d	d	d
12*	-	-	-	-	d	R	R	R
14	-	-	-	-	d	d	d	-

'R' indicates rejection of hypothesis on associated item.

'd' indicates a non-significant difference observed, hypothesis accepted.

'*' indicates item on which one or more of the stated hypotheses were rejected.

dimensions respectively.

Hypothesis II, that there would be no significant difference between the value orientations of male and female members of school organizations was rejected on the grounds that four significant differences between value orientations were ascertained. For item 5 in the Focal dimension and item 15 in the Relational dimension, a significant difference in the preference of male and female respondents for the associated dominant value orientations of these patterns was found. Significantly different patterns between these respondents were obtained by preference score analysis on item 9 in the Relational dimension, and item 12 in the Dispositional dimension.

Preferences for the determined dominant patterns provided no grounds for the rejection of hypothesis III, that there would be no significant difference between the value orientations of Canadian and non-Canadian members of school organizations. However, the preference score analysis indicates that there were significant differences between the value orientations of Canadian and non-Canadian respondents in response to items 10 (Focal), 2 (Relational) and item 12 (Dispositional). These differences allow the rejection of hypothesis III.

Hypothesis IV, that there would be no significant difference between the value orientations of teachers and administrators was rejected on the basis of significant differences being found by both the pattern preference and the preference score analysis procedures. Significant differences were found between the preference of teachers and administrators for the dominant patterns determined for the

Focal items 5 and 13. Significantly different value orientations were also found for teacher and administrator respondents to items 9 (Relational) and 12 (Dispositional).

Rejection of these hypotheses, which were constructed on the theoretical statements of Kluckhohn and Strodtbeck (1961) indicating that differences in value orientations may be expected for groups who are differentiated by both societal differences and behavior sphere differences, provides some indication of the validity of the instrument constructed in this study. However, it should be noted that some items did not contribute to the rejection of any of the hypotheses. If credence is to be placed on the utility of predictive validity, then the validity of these items must be open to question. Nevertheless, significant differences were obtained on items 1, 4 and 8, for differentiated groups of respondents who were not specified in the stated hypotheses. In addition a number of non-significant differences were obtained for many items through the preference score analysis procedure. Only one item, number 7, which is within the Focal dimension, produced no significant or non-significant differences.

To conclude, it would appear that the Organizational Values Inventory (Schools) was able to differentiate between the value orientations of selected groups of school organizational members in both predicted and non-predicted ways. Although this would appear to advance a claim for the ability of the instrument to discriminate, a meaningful interpretation of findings resulting from the application

of this instrument must be contingent on the confidence that may be placed in its validity. A full discussion of the validity of the OVIS is contained in the following chapter.

SUMMARY

The pilot administration of the OVIS was described and details of the sample were elaborated. The results of two procedures for the description of dominant value orientations measured by the instrument were reported and the strength and weaknesses of each method were commented upon. Reliability co-efficients for item scores were reported together with other descriptive statistics.

Differences in the value orientations of the respondents to the pilot administration were reported as obtained by the two different modes of investigation. This investigation of differences was organized to test the four hypotheses stated to provide an estimate of predictive validity. Each of the four stated hypotheses was rejected, indicating that some claim for predictive validity may be made. Difficulties were noted with the utility of this method of ascertaining validity and it was concluded that although the OVIS appears to discriminate between the value orientations of respondents, a more detailed investigation of the validity of the instrument is required. This is considered in the final chapter which follows.

CHAPTER 7

DISCUSSION AND CONCLUSIONS

This, the final chapter, is divided into four main sections. In the first section the original problem statement is reiterated and the activities reported on during the course of this report are summarized. The second section provides a more detailed consideration of the validity of the Organizational Values Inventory (Schools) than has been previously provided. Reference is made to the various procedures that have been employed to establish estimates of validity, and the results of several factor analyses are reported. Following the discussion of validity, some suggestions are made for future research in educational administration.

REVIEW

The central research problem was stated as being:

> To devise and test a research instrument to measure selected value orientations or professional educators and administrators involved in the operation of school organizations.

Following a review of various conceptions of values and an investigation of the nature of value orientations, two instruments that have frequently been employed for values research in the discipline of Educational Administration were discussed, together with their respective theoretical bases.

Primarily as a result of this review, the theory of dominant and variant value orientations advanced by Kluckhohn and Strodtbeck (1961) and the methodology devised by these authors for the measurement of value orientations was adopted in the present study as providing a theoretical base and a suitable methodology for the construction of the instrument specified in the central problem statement.

A conceptual framework was developed from various writings in educational administration to provide a basis for the development of value orientation areas and instrument items. An instrument titled the Organizational Values Inventory (Schools) was developed on the basis of the Kluckhohn theory and the conceptual framework developed. A pilot administration of this instrument was conducted with a small sample of respondents at The University of Alberta, and the data generated were analysed by means of previously determined procedures.

The results of this analysis were summarized in the previous chapter. Analysis indicates that the OVIS was able to discriminate between value orientation patterns of the sample respondents. Through the rejection of four previously postulated hypotheses, some basis for validation of the instrument was identified. Nevertheless, for the instrument to have utility in future research it is necessary for the question of validity to be investigated in greater detail. It cannot be considered sufficient for an instrument to have discriminatory power unless reasonable confidence can be placed in the ability of the instrument to measure what it purports to measure.

VALIDITY

In chapter 4 it was determined that estimates of the face validity, content validity, predictive validity and factorial validity would be made to validate the OVIS. Statements have been made previously in this report concerning the procedures and the results taken and obtained in the first two cases. These are summarized and repeated below together with the results of factor analyses of the data gathered in the pilot administration.

Face Validity

Procedures were devised and established during the construction of the OVIS to ensure a degree of face validity. The initial pool of items that was developed was subject to scrutiny by a number of expert judges to estimate the accuracy with which the items corresponded to the conceptual framework developed. Following this initial screening a draft form of the instrument was developed. This draft was scrutinized by expert judges during two validation seminars during which the judges were requested to correlate items to the appropriate aspects of the conceptual framework. The final form of the instrument was constructed following these validation seminars which eliminated nine of the items included in the initial draft. This final form of the instrument included three items which did not receive the full face validation treatment. These items were suggested by participants in the seminars.

Content Validity

An estimate of content validity may be made on the basis of an implicit property in the Kluckhohn theory on which the present instrument is based. The theory of dominant and variant value orientations suggests that value orientations are concerned with "common human problems" (Kluckhohn and Strodtbeck 1961: 4) and as such would be perceived as important in the lives of men.

During the pilot administration, respondents were requested to indicate how important to them were the problems and situations mentioned in each of the instrument items. Responses were made on a four point scale ranging from "not important" to "very important". The responses obtained are summarized in Table 37. This tabulation shows the distribution of respondent rankings of importance across the four categories of importance for each item. In addition a mean importance score for each item is shown. Consideration of this table would appear to indicate that the majority of the items contained within the OVIS were seen by respondents as being important. Specifically, eleven of the items achieved a mean importance score greater than three.

Several items obtained rankings which would indicate that they were perceived as being of less importance. In particular items 6 and 15 received scores below the midpoint of the scale. Following the rationale for the performance of this analysis, the validity of these items would appear open to question.

TABLE 37

PERCEIVED IMPORTANCE OF OVIS ITEMS

Dimension and item.	Distribution of Respondent Importance.				Mean Importance.
	Not important	Relatively important	Fairly important	Very important	
FOCAL					
1	2	16	27	55	3.2
5	2	8	22	68	3.5
7	2	18	28	52	3.2
10	2	4	41	53	3.3
13	2	8	37	53	3.3
RELATIONAL					
2	2	12	38	48	3.3
4	2	10	42	46	3.3
9	10	26	48	16	2.7
11	2	12	49	37	3.1
15	20	43	26	10	2.2
DISPOSITIONAL					
3	10	20	44	26	2.8
6	18	38	34	10	2.3
8	4	8	52	36	3.1
12	2	2	41	55	3.4
14	2	10	35	53	3.3

Predictive Validity

Four null hypotheses were stated on the basis of comments made by Kluckhohn and Strodtbeck (1961) regarding possible bases for differentiation in value orientations. These hypotheses were stated in the final section of chapter 5 and tested in chapter 6.

Analysis of differences in the value orientations of participants in the pilot study provided for the rejection of these hypotheses. All hypotheses were rejected on the basis of criteria for significance established prior to analysis, and not all items contributed to the rejections. Two methods of inquiring into differences in value orientations were utilized in the analysis. One method, pattern preference analysis, was not able to provide for the rejection of one of the stated hypotheses, and produced no significant differences for items within the Dispositional dimension. The second method of analysis, preference score analysis, provided for the rejection of each of the four hypotheses on the basis of differences found on items in each of the three dimensions.

Kluckhohn and Strodtbeck (1961) employed predictive validity as a means of establishing confidence in their initial schedule, although their "prior predictions" were more detailed than the hypotheses stated in this study. Kluckhohn and Strodtbeck (1961:350) remarked on the usefulness of the procedure for both validating or invalidating an instrument. The analysis conducted in this study would appear to have produced no firm grounds for invalidation.

Factorial Validity

It was previously determined that factor analyses of the data obtained through the pilot study administration would be conducted as an additional estimate of validity. Reservations were held as to the usefulness of these procedures in the analysis of data which are concerned with relativity in responses. Whereas factor analysis procedures are based on the correlations between item scores, the nature of the theory and methodology of investigating value orientations adopted stresses that relative variations will occur in the responses of individuals to specified situations.

A major difficulty in the construction of both the original Kluckhohn schedule and the present instrument was the creation of situations that would tap specific value orientations and minimize contamination from others. Kluckhohn and Strodtbeck concluded, and the present researcher concurs, that some contamination between value orientations is inevitable in the majority of "generalized life situations" which form the basis for the instruments. For example, in order to tap the Focal value orientation dimension respondents may well be influenced in their selection of choices by the operation of other value orientations, that may or may not be identified in the operational conceptual framework.

For this reason and due to the relative nature of respondent choices, the emergence of "pure" factors in the factor analysis of the data was not expected.

Focal factors. Table 38 reproduces a three factor varimax rotated solution for the Focal items. The three positions within the dimension are listed to the left of the table in delimited groups and all factors in excess of .400 are printed in boldface type, those less than .400 being printed in italic type. A factor loading of .400 or greater is considered significant.

As may be seen all loadings associated with the Process position locate clearly and consistently under factor one, which may therefore be identified in this analysis as representing Process within the Focal dimension. Similarly, a clear patterning is associated with the Pragmatism position scores under factor two.

The Task loadings are distributed across the three factors in this solution. This dispersion may be interpreted as representing the relativity of the three positions to each other. The relationship between the three positions indicated by this analysis would appear to place the Process and Pragmatism positions at the ends of a single continuum, with the Task position approximating the middle of this hypothetical continuum and overlapping the Process and Pragmatism areas at times. This relationship could be graphically illustrated in the following manner:

/ P R O C E S S / / T A S K / / P R A G M A T I S M

This relationship may be illustrated by an exmaination of the positions associated with the instrument items. For items 1 and 5 the Process positions appear clear and distinct, while the Task positions

TABLE 38

THREE FACTOR VARIMAX SOLUTION
FOR FOCAL POSITIONS

Items		Factors			
PROCESS POSITION		1	2	3	Commonalities
Item	Code number				
1	2	749	*175*	*066*	599
5	13	828	*169*	*-037*	715
7	19	732	*040*	*220*	586
10	28	769	*097*	*138*	619
13	38	792	*009*	*-095*	656
TASK POSITION					
Item	Code number				
1	1	*233*	712	*234*	617
5	15	*192*	691	*154*	538
7	21	574	*374*	*-214*	515
10	30	*310*	*159*	719	638
13	37	443	*380*	-536	628
PRAGMATISM POSITION					
Item	Code number				
1	3	*-063*	731	*-047*	541
5	14	*065*	699	*-280*	570
7	20	*355*	486	*-181*	395
10	29	*257*	679	*-285*	614
13	39	*025*	664	*299*	531
Eigenvalues		3.914	3.525	1.303	8.743
% total variance		26.09	23.50	8.69	58.285

Decimal points are omitted.
Code numbers refer to numbers identifying item alternatives in OVIS.

appear partially merged to some degree with the Pragmatism position. However, for items 7 and 13 the Task positions are merged to some degree with the Process positions.

Further analyses were executed for the Focal position with more factors being specified. The solutions characteristically accounted for a greater per cent of the total variance than is accounted for by the three factor solution and generally provided a more complex map of the relationships between the three positions. The three factor solution is offered here as a compromise between the more complex solutions of the more detailed analyses and the amount of variance that is accounted for. While the 58.285% of the variance accounted for by the three factor solution may not be ideal, it is seen as acceptable.

Relational factors. While it was considered suitable to concentrate on the three factor solution for the analysis of the Focal dimension, the increased complexity associated with the results of the analysis of the Relational dimension positions suggested consideration of a more detailed matrix. Table 39 displays an eight factor varimax rotated solution for the Relational position factors.

This solution accounts for 84% of the total variance associated with these positions and was selected primarily for the particularly heavy loadings that emerged for some positions on certain factors. This would appear to provide an illustration of the relative relationships between these positions. An example is provided by the factor loadings obtained for the three positions contained in item 4. As may

TABLE 39

EIGHT FACTOR VARIMAX ROTATED SOLUTION FOR RELATIONAL POSITIONS

Items		Factors								
MASTERY POSITION		1	2	3	4	5	6	7	8	Commonalities
Item	Code number									
2	6	677	217	-043	098	-348	339	194	170	819
4	11	162	101	098	028	-005	-096	100	941	951
9	26	-081	904	134	025	106	138	042	090	883
11	32	048	-238	389	779	001	002	163	149	867
15	44	300	264	-182	772	142	094	077	-092	832
MEDIATIONARY POSITION										
Item	Code number									
2	4	067	166	882	039	022	019	-061	118	830
4	10	502	310	543	026	160	265	153	-252	826
9	27	711	-047	066	362	370	187	-061	069	824
11	31	510	709	126	-021	111	-124	-004	039	809
15	45	144	024	-008	131	080	035	953	107	965
SUBJECTIVITY POSITION										
Item	Code number									
2	5	144	303	-021	034	817	161	141	-078	874
4	12	130	068	082	061	203	900	037	-117	898
9	25	845	-043	211	048	115	-050	094	174	817
11	33	062	-170	432	279	556	317	-020	193	744
15	43	550	299	217	313	022	097	335	-130	676
Eigenvalues		2.684	1.888	1.592	1.548	1.365	1.223	1.163	1.151	12.615
% total variance		17.89	12.59	10.62	10.32	9.10	8.15	7.75	7.68	84.103

Decimal point are omitted. Code number refers to numbers identifying item alternatives in OVIS.

be seen from Table 39, the subjectivity position within this item obtained a loading of .90 on factor six. Although this is the only significant loading on this factor it would appear to identify factor six as strongly representative of the Subjectivity position in the context of item 9. Factors seven and eight also emerged as single important representatives of the Mastery and Mediationary positions. The emergence of more than one factor representative of a particular position illustrates the relativity of the positions to the situations specified in each item.

Detailed consideration of the matrix provided in Table 39 indicates that several items are associated with clearly distinct factor loadings. Factors four and eight emerge as associated with the Mastery positions for items 4, 11 and 15. Factors five and six appear to represent the Subjectivity positions for items 2, 4 and 11 and factor seven emerges as indicative of the Mediationary position for item 15. Factors one, two and three appear to be confused. Factor one is associated with loadings for Mastery in association with item 2, Mediationary in association with loadings for 4, 9 and 11, and Subjectivity in association with items 9 and 15. Factor two contains a significant loading for Mastery as associated with item 9 and Mediationary with item 11. There are no significant loadings for Subjectivity on this factor. Factor three exhibits loadings for the Mediationary position as associated with items 2 and 4, and the Subjectivity position as associated with item 11.

These observations would tend to suggest that the three

Relational positions are distributed along a theoretical continnum thus:

/ M E D I A T I O N A R Y /

/ MASTERY / / SUBJECTIVITY /

If this is the case then the dual loadings of Mastery and Mediationary on factor one and two, and Mediationary and Subjectivity on factor three are explained partially. Adoption of this model poses questions as to the validity of the Subjectivity positions in items 9 and 15, both of which loaded on factor one. Nevetheless, the Mastery position for these items appear to load on acceptable factors. This observation endorses the previous comments about the relativity of item positions to the situations associated with each particular item.

Dispositional factors. A seven factor solution was selected as providing an accurate description of the relationship between positions within the Dispositional dimension while accounting for a reasonable proportion of the total variance. This solution accounts for 78% of the variance and is shown in Table 40.

Factors three and six emerged as representative of the Lineality position, factors one, two and four provide for partial identification of the Laterality and the Individuality positions, while factor seven provides a single significant loading for Laterality and factor five a single significant loading for Individuality. This configuration suggests that the Dispositional positions are possibly distributed

TABLE 40

SEVEN FACTOR VARIMAX ROTATED SOLUTION FOR DISPOSITIONAL POSITIONS

Items		Factors							
		1	2	3	4	5	6	7	Commonalities
LINEALITY POSITION									
Item	Code number								
3	9	*021*	*022*	*047*	*161*	*036*	885	*065*	818
6	17	*155*	*-210*	*101*	782	*159*	*005*	*290*	799
8	24	590	*198*	*-196*	*381*	*-473*	*099*	*211*	849
12	36	*142*	*-089*	800	*167*	*229*	*060*	*252*	816
14	42	*278*	*248*	670	*002*	*-344*	*242*	*-170*	794
LATERALITY POSITION									
Item	Code number								
3	7	883	*061*	*-021*	*-017*	*-067*	*-017*	*061*	793
6	16	706	*-070*	*268*	*032*	*321*	*007*	*172*	709
8	22	429	440	*010*	*192*	*204*	*225*	-449	709
12	34	*214*	564	*-321*	*268*	*010*	*-164*	*231*	619
14	40	*264*	*168*	*058*	*188*	*-001*	*142*	803	797
INDIVIDUALITY POSITION									
Item	Code number								
3	8	*-020*	447	*110*	458	*341*	-433	*-146*	747
6	18	*-024*	916	*-008*	*-085*	*031*	*083*	*050*	857
8	23	*-119*	*259*	*-071*	728	*-019*	*346*	*-053*	740
12	35	*259*	*268*	-684	*165*	*223*	*281*	*086*	770
14	41	*085*	*122*	*-108*	*144*	915	*041*	*-010*	894
Eigenvalues		2.133	1.894	1.815	1.751	1.576	1.348	1.193	11.710
% total variance		14.22	12.63	12.10	11.67	10.51	8.99	7.95	78.064

Decimal points omitted. Code number refers to numbers identifying item alternatives in OVIS.

along a continuum thus:

/LATERALITY/
/LINEALITY/ /INDIVIDUALITY/

If this is the case then the loading of the Lineality position associated with item 6 on factor 4 suggests that either this is an extreme departure from the posited relationship or that this position is not accurately representive of the Lineality concept. Again, the problem of relativity would appear important, as the three positions associated with this item do load significantly on different factors, and it is only in comparison with the other position loadings for other items that this this position is called into question.

This is not the case with the Individuality position associated with item 12 as this position does not load positively on any of the seven factors. The negative loading that emerged on factor 3, which has been identified as representative of Lineality, suggests that this position represents a distinct alternative. However, the lack of a significant loading on any factor associated with Individualism would appear to indicate that there exists a serious problem with this item.

Pervasive Factors

Throughout the discussion of the factor analysis of the three value orientation dimensions contained in the instrument, reference has been made to the relative nature of the positions associated with each item. Note has been taken of the expected, and actual, tendency

for particular positions to receive different emphasis in the context of the particular situation described by each item. A relevant question would appear to be whether or not there are general pervasive factors operating within the total battery of instrument items that could possibly influence these shifts in emphasis. To partially investigate this question, a number of factor analyses were executed for the total items contained in the instrument. Table 41 offers a three factor varimax rotated factor matrix for the total 45 items of the OVIS. Items that received a factor loading greater than .400 in any of the three factors were identified and compared for commonalities in phrasing, content and emphasis. Three general factors were identified.

Factor 1: Bureaucratic ethos. Those items that loaded significantly on factor 1 contained aspects of obedience, autocracy, standardization, reward, specialization, organization and security for teachers. In many cases aspects of the administrative process were emphasized. The strong elements of standardization, specialization, obedience to administrative procedures and to legal authority suggested that this general factor be identified as representing the *bureaucratic ethos* that may be present in school organizations.

This factor includes all of the five items designed to be associated with the Pragmatism position within the Focal dimension. In addition, four of the five Task items from this dimension were also included in this factor. This association supports the relationship between these two positions postulated previously in this section.

TABLE 41

THREE FACTOR VARIMAX ROTATED SOLUTION FOR ALL OVIS ITEMS

	COMMUNALITIES	1	2	3
1	0.426	0.503	0.183	0.374
2	0.532	0.227	0.662	0.206
3	0.361	0.551	-0.083	0.224
4	0.393	-0.018	0.231	0.583
5	0.356	0.494	0.275	0.194
6	0.481	0.406	0.540	-0.159
7	0.230	0.312	0.317	0.178
8	0.336	-0.119	0.387	0.414
9	0.203	0.426	0.124	0.075
10	0.584	0.440	0.487	0.393
11	0.216	-0.090	0.418	0.182
12	0.334	0.583	0.017	0.165
13	0.691	0.244	0.784	0.129
14	0.442	0.662	-0.023	0.057
15	0.500	0.569	0.097	0.408
16	0.338	0.302	0.054	0.494
17	0.424	0.323	0.011	0.565
18	0.493	0.130	0.666	-0.181
19	0.509	0.178	0.661	0.199
20	0.299	0.465	0.276	0.083
21	0.443	0.461	0.470	0.103
22	0.411	0.057	0.560	0.308
23	0.188	0.282	0.257	0.207
24	0.419	0.366	0.532	-0.041
25	0.367	0.473	0.347	0.149
26	0.389	0.109	0.612	0.052
27	0.561	0.696	0.272	0.050
28	0.586	0.203	0.728	0.123
29	0.580	0.743	0.167	0.304
30	0.598	-0.025	0.256	0.729
31	0.627	0.141	0.776	0.066
32	0.338	0.357	-0.055	0.456
33	0.371	0.349	0.087	0.492
34	0.318	-0.009	0.564	0.024
35	0.355	-0.033	0.575	0.154
36	0.336	0.480	-0.126	0.300
37	0.498	0.604	0.342	-0.110
38	0.514	0.201	0.688	0.003
39	0.405	0.470	-0.028	0.428
40	0.347	0.417	0.321	0.264
41	0.388	-0.122	0.113	0.600
42	0.436	0.542	0.047	-0.148
43	0.623	0.587	0.393	-0.353
44	0.474	0.661	0.171	0.090
45	0.201	0.432	0.115	-0.033
	18.922	7.541	7.419	3.962
PERCENT OF TOTAL VARIANCE				
	42.049	16.758	16.487	8.804

Furthermore this factor contains four of the five items designed to represent the Subjectivity position within the Relational dimension, and three of the five items designed to represent the Mediationary position in this dimension. This finding also tends to support the relationship between these two positions as postulated previously.

Three of the Lineality items were also located within this factor. This identification of Lineality, Subjectivity and Pragmatism would suggest that there is a degree of accuracy in these items, as these positions would appear to be naturally associated with a bureaucratic emphasis.

Factor 2: Humanist-professional. The second pervasive factor contains items which stress students and their needs, teacher expertise and autonomy, personal skill, friendly relationships and conflict between administrators and teachers. Elements of an ideal type of professionalism would appear to be associated with this factor as well as overtones of humanist ethics. This factor was named *humanist-professional*.

All of the items designed to tap the Process dimension of the Focal dimension contributed to this factor, thus providing some support for the validity of the concept and items developed to measure this aspect of the Focal value orientations. Three of the Mastery items and two of the Mediationary items also loaded on this factor, lending some support to the relationship between these positions as postulated. Two Laterality and two Individuality items also loaded

on this factor.

Factor 3: Traditionalism. The third factor appears less developed than the previously discussed general factors. This factor appears to contain elements of control, supervision and teacher autonomy and has been named *traditionalism*. Two of the Task items loaded significantly on this factor, one of which also loaded on the bureaucractic ethos factor. This factor also contains significant loading of Pragmatism, Lineality and Subjectivity items, some of which also loaded on factor one. Process items were conspicuously absent from this factor.

Alternative solution. As may be noted from Table 41, only 42% of the total variance is accounted for by this three factor solution. A ten factor varimax matrix for the total 45 items which accounts for 71% of the variance is contained in Appendix B. This solution appears to provide a more detailed map of the three factors commented upon above. Three of the ten factors appear to contribute to the humanist-professional factor identified in the three factor solution, while the remaining seven factors generally account for specific aspects of bureaucratic ethos and traditionalism. In the ten factor solution, these latter factors appear to be amalgamated to some degree around such topics as competency, control, autonomy and expertise.

Summary

The comment regarding pervasive factors offers some additional information for the major focus of this section, which is the validity of the instrument developed. It would appear necessary for some summary statements to be developed in the context of the various estimates and procedures adopted to deal with this question. Nevertheless, definitive validation of any instrument within the social sciences would appear to be a questionable aspiration. This would certainly appear to be the case with the present instrument as the claims that can be made for validity for an instrument that deals with the complex subject of value orientations on the basis of a single pilot administration with a relatively small sample would appear limited. Consequently, it would seem appropriate to concentrate on invalidation rather than validation and to direct concern to specific aspects of the instrument.

The following statements draw heavily on comments, observations and conclusions reached in the preceding section of this chapter and the previous chapters.

The conceptual framework. The acceptance of the conceptual framework by several panels of competent judges would appear to provide no grounds for invalidation.

Focal items. The face validation of four of these items by expert judges, the ability of all of these items to extract value orientations from respondents and the general coherance of the factor analyses

performed on these items provide no strong argument for invalidation. However, the failure of items 1 and 7 to differentiate between specified groups of respondents for which differing value orientations were predicted would appear to provide some grounds for the invalidation of these specific items.

Relational items. The face validation of three of these items and their ability to identify value orientations of respondents provide little substantive grounds for their validity to be questioned. Items 11 and 15, which did not receive the full face validation treatment may be suspect. However, these items were instrumental in the rejection of specified hypotheses. The incompatability of the Subjectivity position in item 15 with similar positions in other items as revealed by factor analysis does provide a basis for the invalidation of this item. A similar criticism can be directed against item 9. The failure of item 4 to contribute to the rejection of any of the predictive hypotheses provides grounds for the validity of this item to be questioned. Finally, the low importance scores of items 9 and 15 provide further grounds for their validity to be questioned.

The weight of the available evidence strongly suggests that item 15 may be invalid and could be removed from future forms of the instrument. While doubts may be held regarding the validity of items 11 and 9, there appears less evidence to suggest the invalidity of these items at this time.

Dispositional items. All of these items passed the face validation procedures. The failure of item 12 to provide a dominant value orientation pattern that met criteria for acceptance is seen as a challenge to its validity. However, this item was instrumental in rejecting three hypotheses through the medium of preference score analysis procedures. Nevertheless, the failure of this item to yield a significant loading for the Individualism position is seen as invalidating this item. Reservations are held regarding the validity of item 6 insofar as the Lineality position associated with this item appears to be associated with possibly incompatible positions in the factor analysis reported, and in the light of the low importance score associated with this item in the content validation procedure.

Conclusion. The removal of items 15 and 12 from the instrument is seen as removing the basis for major criticism regarding item validity. Insofar as no grounds are presently perceived for the elimination of other items, the total instrument is considered to possess accepable validity at this time. Future administrations of the instrument may provide more substantial grounds for the invalidation of those items which remain suspect.

No comments have been made in this section regarding the validity of the theoretical and methodological base on which the instrumont was developed. As was stated previously, these were considered to have been validated by previous researchers.

SUGGESTIONS FOR FUTURE RESEARCH

Additional activities would appear to be desirable to refine the OVIS. In particular, consideration could be given to developing a shorter form of the instrument containing items which appear to have strong discriminating power and which appear particularly valid. Alternately, attention could be directed to developing additional items to substitute for those which may be suspect. Some energy could profitably be devoted to obtaining test-retest reliability co-efficients for the present dimension sub-scales.

Activities could also be initiated to broaden the present conceptual framework through the identification of additional value orientation areas. In this regard a recent publication by Condon and Yousef (1975:56-90) which draws heavily on the Kluckhohn theory, identifies twenty additional value orientation areas, some of which appear to be applicable to organizations. A further area of development could be to develop alternate forms of the OVIS designed for other target populations. The design of variant instruments to elicit value orientations of both students and parents could be particularly worthwhile.

In the final analysis, a research instrument is designed to be used and either the present form of the OVIS or a more refined form could be utilized in future descriptive and correlational research. The data generated by the pilot administration of the present form of

the instrument suggests that differences do exist among the value orientations of school personnel and it would appear worthwhile to investigate and describe these differences. Moreover, attention could profitably be given to relationships that may exist between the value orientations of school personnel and specific characteristics of school organizations. For example, the degree of bureaucratization in schools could be correlated with the value orientations of professional and other personnel. The identification of the pervasive Bureaucratic Ethos factor operating in the OVIS pilot data suggests that research along these lines could be profitable.

BIBLIOGRAPHY

BIBLIOGRAPHY

A. BOOKS

Albrow, Martin
1970 *Bureaucracy*. New York: Praeger.

Argyris, C.
1964 *Integrating the Individual and the Organization*. New York: Wiley.

Azumi, Koya
1972 *Organizational Systems*. Lexington, Mass.: D.C. Heath.

Barnard, C.I.
1938 *The Function of the Executive*. Cambridge, Mass.: Harvard University Press.

Bell, Gerald D.
1967 *Organizations and Human Behavior*. Englewood Cliffs, N.J.: Prentice-Hall.

Blau, Peter M. and W. Richard Scott
1962 *Formal Organizations*. San Francisco: Chandler.

Blau, Peter M. and Richard A. Schoenherr
1971 *The Structure of Organizations*. New York: Basic Books.

Broom, Leonard and Philip Selznick
1955 *Sociology: A Text with Adapted Readings*. New York: Harper and Row.

Champion, Dean
1975 *The Sociology of Organizations*. New York: McGraw Hill.

Cordon, John C. and Fathi S. Yousef
1975 *An Introduction to Intercultural Communication*. New York: Bobbs-Merrill.

Corwin, R.G.
1963 *The Development of an Instrument for Examining Staff Conflict in the Public Schools*. Columbus: Ohio State University.

Corwin, Ronald G.
1970 *Militant Professionalism*. New York: Appleton-Century-Crofts.

Cyert, Richard M. and James G. March
1963 *A Behavioral Theory of the Firm.* Englewood Cliffs: Prentice-Hall.

Ebel, Robert L.
1965 *Measuring Educational Achievement.* Englewood Cliffs: Prentice-Hall.

Etzioni, Amitai
1961 *A Comparative Analysis of Complex Organizations.* New York: Free Press.

Etzioni, Amitai
1964 *Modern Organizations.* Englewood Cliffs: Prentice-Hall.

Fayol, H.
1949 *General and Industrial Management.* (Trans. by C. Storrs.) London: Pitman.

Ferguson, George A.
1971 *Statistical Analysis in Psychology and Education.* New York: McGraw Hill. 3rd edition.

Fishbein, Martin
1967 *Readings in Attitude Theory and Measurement.* New York: Wiley.

Hall, Richard H.
1972 *Organizations: Structure and Process.* Englewood Cliffs: Prentice-Hall.

Hallowell, A. Irving
1955 *Culture and Experience.* Philadelphia: University of Pennsylvania Press.

Halpin, A.W. and D.B. Croft
1963 *The Organizational Climate of Schools.* MidWest Administrative Centre: University of Chicago.

Inlow, Gail M.
1972 *Values in Transition: A Handbook.* New York: Wiley

Kast, Fremont E. and James E. Rosenzweig
1970 *Organization and Management.* New York: McGraw-Hill.

Katz, Daniel and Robert L. Kahn
1966 *The Social Psychology of Organizations.* New York: Wiley

Kluckhohn, F.R. and F.L. Strodtbeck
1961 *Variations in Value Orientations.* Evanston, Ill.: Row Peterson.

March, James G. and Herbert A. Simon
1958 *Organizations.* New York: Wiley.

Maslow, A.
1954 *Motivation and Personality.* New York: Harper and Row.

Mayo, Elton
1945 *The Social Problems of an Industrial Civilization.* Cambridge, Mass.: Harvard University.

Moore, G.E.
1903 *Principia Ethica.* Cambridge: Cambridge University Press.

Mouzelis, Nicos P.
1967 *Organization and Bureaucracy.* Chicago: Aldine.

Parsons, Talcott
1951 *The Social System.* Glencoe, Ill.: The Free Press.

Parsons, Talcott
1960 *Structure and Process in Modern Societies.* Glencoe, Ill.: The Free Press.

Parsons, Talcott and Edward A. Shils
1951 *Toward a General Theory of Action.* New York: Harper and Row.

Pepper, Stephen C.
1958 *The Sources of Values:* Berkeley and Los Angeles: University of California Press.

Perrow, Charles
1972 *Complex Organizations: A Critical Essay.* Glenview, Ill.: Scott, Foresman.

Perry, Ralph Barton
1926 *General Theory of Value.* Cambridge, Mass.: Harvard University Press.

Peters, R.S.
1974 *Psychology and Ethical Development.* London: George Allen and Unwin.

Presthus, R.V.
1965 *The Organization and Society.* New York: Knopf.

Raths, L.E., M. Harmin and S.B. Simon
1966 *Values and Teaching: Working with Values in the Classroom.* Columbus: Charles Merrill.

Rescher, Nicholas
1969 *Introduction to Value Theory.* Englewood Cliffs: Prentice-Hall.

Rokeach, Milton
1968 *Beliefs, Attitudes and Values.* San Francisco: Jossey-Bass.

Sergiovanni, Thomas J. and Robert J. Starratt
1971 *Emerging Patterns of Supervision: Human Perspectives.* New York: McGraw Hill.

Sergiovanni, Thomas J. and Fred D. Carver
1974 *The New School Executive: A Theory of Administration.* New York: Dodd Mead.

Siegel, Sidney
1956 *Nonparametric Statistics for the Behavioral Sciences.* New York: McGraw-Hill.

Silverman, David
1970 *The Theory of Organizations.* London: Heineman.

Simon, Herbert A.
1957 *Models of Man.* New York: Wiley.

Simon, Herbert A.
1958 *Administrative Behavior.* New York: MacMillan.

Skinner, B.F.
1971 *Beyond Freedom and Dignity.* New York: Alfred A. Knopf.

Spindler, George D.
1963a *Education and Culture.* New York: Holt, Rinehart and Winston.

Summers, Gene F.
1970 *Measurement.* Chicago: Rand McNally.

Taylor, Frederick W.
1911 *The Principles of Scientific Management.* New York: Harper and Row.

Weber, Max
1946 *Essays in Sociology*. (Trans. by H.H. Gerth and C. Wright Mills) Oxford: Oxford University Press.

Weber, Max
1947 *The Theory of Social and Economic Organization*. (Trans. by A.M. Henderson and Talcott Parsons.) New York: Oxford University Press.

B. PERIODICALS

Abbott, Max G.
1965 "Intervening variables in organizational behavior." *Educational Administration Quarterly*, 1:1:3-14.

Argyris, Chris
1957 "The individual and the organization. Some problems of mutual adjustment." *Administrative Science Quarterly*, 2:1-24.

Caudill, William and Harry A. Scarr
1962 "Japanese value orientations and culture change." *Ethnology*, 1:53-91.

Corwin, Ronald
1965 "Professional persons in public organizations." *Educational Administration Quarterly*, 1:1-23.

Corwin, Ronald G.
1969 "Patterns of organizational conflict." *Administrative Science Quarterly*, 14: 507-520.

Druckman, Daniel and Kathleen Zeckmeister
1973 "Conflicts of interest and value dissensus: Propositions in the sociology of conflicts." *Human Relations*, 26: 449-466.

Erickson, Donald
1962 "Do schools affect student values?" *Administrators' Notebook*, XI (December).

Getzels J.W. and E.G. Guba
1957 "Social behavior and the administrative process." *The School Review*, 65:423-441.

Gue, Leslie R.
1971 "Value orientations in an Indian community." *The Alberta Journal of Educational Research*, 17:19-31.

Haigh, V. and W. Fiske
1948 "Corroboration of personal values as selective factors in perception." *Journal of Abnormal and Social Psychology*, 43:394-398.

Hage, Jerald and Robert Dewar
1973 "Elite values versus organizational structure in predicting innovation." *Administrative Science Quarterly*, 18: 279-298.

Hodgkinson, Christopher
1970 "Organizational influence on value systems." *Educational Administration Quarterly*, 6:3:46-55.

Kluckhohn, F.R.
1966 "A method for eliciting value orientations." *Anthropological Linguistics*, 2:1-23.

Perrow, Charles
1967 "A framework for the comparative analysis of organizations." *American Sociological Review*, 32:194-208.

Postman, L., J.S. Brunner and E. McGinnies
1948 "Personal values as selective factors in perception." *Journal of Abnormal and Social Psychology*, 43:148-154.

Price, D.K.
1965 "The established dissenters." *Daedalus*, 94:84-116.

Prince, Richard
1957b "Individual values and administrative effectiveness." *Administrator's Notebook*, 6(December).

Spindler, George D.
1955 "Education in a transforming American culture." *Harvard Educational Review*, 25:145-56.

White, Paul E.
1974 "Resources as determinants of organizational behavior." *Administrative Science Quarterly*, 19:366-379.

Williams, Tom R.
1974 "Our value dilemma." *Education Canada*, 14:3.

Willower, Donald
1961 "Values and educational administration." *Peabody Journal of Education*, 39:157-161.

Willower, Donald J.
1973 "Schools, values and education inquiry." *Educational Administration Quarterly*, 9.2:1-18.

C. ARTICLES IN COLLECTIONS

Allport, Gordon W.
1967 "Attitudes." *Readings in Attitude Theory and Measurement*, Martin Fishbein, editor. New York: Wiley.

Bidwell, Charles E.
1965 "The School as a Formal Organization." *Handbook of Organizations*, James G. March, editor. Chicago: Rand McNally.

Boneau, C. Alan
1971 "The Effects of Violations of Assumption Underlying the *t*-Test." *Readings in Statistics for the Behavioral Scientist*, Joseph A. Steger, editor. New York: Holt Rinehart and Winston.

Bowers, Raymond V.
1964 "Validity". *A Dictionary of the Social Sciences*, Julian Gould and William L. Kolb, editors. Toronto: Collier MacMillan.

Frankena, William F.
1967 "Value and Valuation." *The Encyclopedia of Philosophy*, Paul Edwards, editor. New York: MacMillan and The Free Press.

French, J.R.P. and B. Raven
1960 "THe Bases of Social Power." *Group Dynamics: Research and Theory*, D. Cartwright and A.E. Zonde, editors. Evanston, Ill.: Row Peterson. 2nd edition.

Getzels, Jacob W.
1958 "Administration as a Social Process." *Administrative Theory in Education*, Andrew W. Halpin, editor. New York: MacMillan.

Kluckhohn, C.
1951 "Values and Value Orientations in the Theory of Action." *Toward a General Theory of Action*, T. Parsons and E.A. Shils, editors. Cambridge, Mass.: Harvard University Press.

Kluckhohn, F.R.
1967 "Some Reflections on the Nature of Cultural Integration and Change." *Sociological Theory, Values and Sociocultural Change*, E.A. Tiryakian, editor. New York: Harper and Row.

Lyes, Wayne
1962 "The Value Framework of Decision-Making." *Concepts and Issues in Administrative Behavior*, Edward H. Van Ness, editors. Englewood Cliffs: Prentice-Hall.

McGregor, Douglas
1966 "The Human Side of Enterprise." *Leadership and Motivation, Essays of Douglas McGregor*, Edgar H. Schein, editor. Cambridge, Mass.: Massachusetts Institute of Technology Press.

Rogers, C.R.
1964 "Toward a Science of the Person." *Behaviorism and Phenomenology: Contrasting Bases for Modern Psychology*, T.W. Wann, editor. Chicago: University of Chicago Press.

Skinner, B.F.
1964 "Behaviorism at Fifty." *Behaviorism and Phenomenology: Contrasting Bases for Modern Psychology*, T.W. Wann, editor. Chicago: University of Chicago Press.

Spindler, George D.
1963b "Education in a Transforming American Culture." *Education and Culture*, George D. Spindler, editor. New York: Holt, Rinehart and Winston.

Spindler, George D.
1963c "Current Anthropology." *Education and Culture*, George D. Spindler, editor. New York: Holt, Rinehart and Winston.

Tolman, Edward C.
1951 "A Psychological Model." *Toward a General Theory of Action*, T. Parsons and E.A. Shils, editors. New York: Harper and Row.

Williams, Robin M.
1968 "The Concept of Values." *International Encyclopedia of the Social Sciences*, David L. Sills, editor. New York: MacMillan.

D. UNPUBLISHED MATERIALS

Abbott, Max G.
1960 "Values and Value Perceptions in Superintendent-School Board Relationships," Unpublished Doctoral Dissertation, University of Chicago.

Anderson, Dianne
1972 "Value Orientations of Rural Alberta High School Students," Unpublished Masters Thesis, University of Alberta.

Blackmon, C. Robert
1969 "Changing Behaviors and Values: The Educational Administrator in American Society." Bowling Green: Continuing Interest Group on Values of the National Conference of Professors of Educational Administration. (Mimeograph).

Bryans, D.G.
1971 "Education and Acculturation. The School in a Multicultural Setting," Unpublished Doctoral Dissertation, University of Alberta.

Greenfield, T.B.
1974 "Theory in the Study of Organizations and Aministrative Structures: A New Perspective." Canadian Association for the Study of Educational Administration. (Mimeograph).

Gue, Leslie R.
1967 "A Comparative Study of Value Orientations in an Alberta Indian Community,: Unpublished Doctoral Dissertation, University of Alberta.

Jacob, Philip E., James J. Flink and Hedvah L. Shuchman
1962 "Values and Their Function in Decision-Making," University of Pennsylvania Studies of Social Values and Public Policy. Phildelphia: University of Pennsylvania. (Mimeograph).

Kitchen, Hubert William
1966 "Relationships Between Value Orientations of Grade Nine Pupils in Newfoundland and the Characteristics of their Primary and Secondary Groups," Unpublished Doctoral Dissertation, University of Alberta.

Lupini, Dante
1965 "A Study of the Relation Differential Values to Social and Administrative Interactions," Unpublished Doctoral Dissertation, University of Alberta.

McPhee, Roderick F.
1959 "The Relationship Between Individual Values, Educational Viewpoint and Local School Board Approval," Unpublished Doctoral Dissertation, University of Chicago.

Prince, Richard
1957a "A Study of the Relationship Between Individual Values and Administrative Effectiveness in the School Situation," Unpublished Doctoral Dissertation, University of Chicago.

Seger, John E.
1965 "Variations in Value Orientations and Differences in Role Expectations - A Relationship within an Educational Context," Unpublished Doctoral Dissertation, University of Oregon.

APPENDIX A

O R G A N I Z A T I O N A L

V A L U E S

I N V E N T O R Y

(S C H O O L S)

C Derek John Allison 1975

Department of Educational Administration
Faculty of Education
University of Alberta
Edmonton

Form A

ORGANIZATIONAL VALUES INVENTORY (SCHOOLS)

All of the items in this questionnaire are concerned with situations and problems connected with schools. Each item consists of a few lines introducing the topic, followed by three statements, A B and C, each of which indicates one way of solving the problem or looking at the situation. You are asked to indicate your preference for each of these views by means of a five point scale to the right of the page. If you see a given view

as the best way, circle 5,

as a good way but not the best way, circle 4,

as an acceptable way, circle 3,

as a poor way, but not the worst way, circle 2,

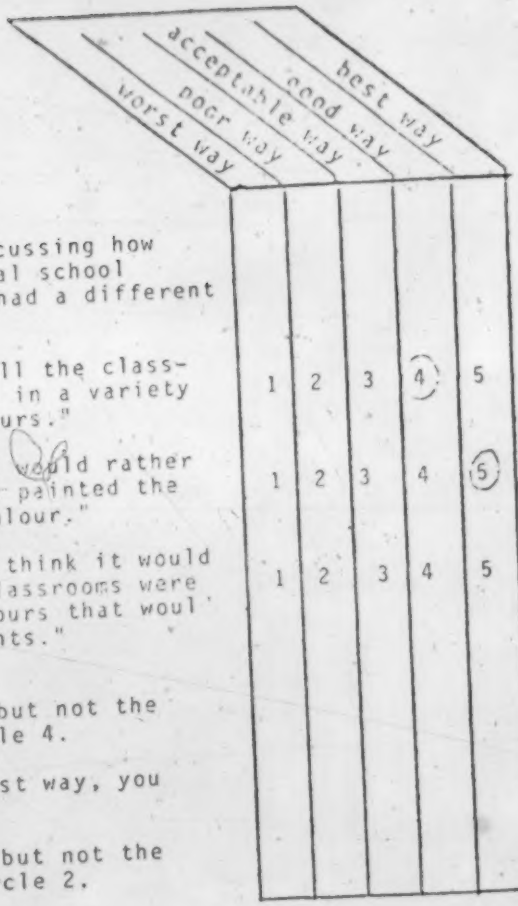
as the worst way, circle 1.

A number should be circled for each of the three views given in each item. You may circle the same number for more than one solution for each item.

There is an example given on the next page.

Please read the note printed in the box on the next page.

EXAMPLE



COLOURS

Three people were discussing how the classrooms in the local school should be painted. Each had a different idea.

A One said "I think all the classrooms should be painted in a variety of bright cheerful colours."

B The second said, "I would rather have all the classrooms painted the same bright cheerful colour."

C The third said, "I think it would be better if all the classrooms were painted in neutral colours that would not distract the students."

1	2	3	(4)	5
1	2	3	4	(5)
1	2	3	4	5

If you think A is good, but not the best way, you would circle 4.

If you think B is the best way, you would circle 5.

If you think C is poor, but not the worst way, you would circle 2.

PLEASE NOTE:

1. *Although you may circle the same number more than once for each item, logically, only one view can be the best, and only one can be the worst in each item.*
2. *Please fill out the removable rating sheet, (Part C) as you complete each item.*
3. *Please complete all items.*

Please don't write in this column.

	best way	good way	acceptable way	poor way	worst way	
1. DIFFERENT SCHOOLS						
Three teachers were talking about the type of school in which they preferred to work. Each had a different view.						
A One said, "I would rather work in a school where I can teach the subjects I know best and where I have specific responsibilities, so that I know what is expected of me."	1	2	3	4	5	1
B Another said " I prefer to work in a school where the teachers are concerned with providing varied learning experiences for the children, and are prepared to give extra time and effort to see that students are given opportunities to realize their potential."	1	2	3	4	5	2
C The third said, "Given the choice, I would rather work in a school where I know I will have a fairly secure position and will earn a good salary."	1	2	3	4	5	3
2. QUALIFICATIONS FOR PRINCIPAL						
A group of people were talking about the qualifications a person should have to become a school principal. There were three views expressed.						
A Some said that special training was not important as long as the person was good at resolving problems and handling conflicts between people.	1	2	3	4	5	4
B Some said that the person selected should be a skilled administrator with specialist training and experience.	1	2	3	4	5	5
C Some said that the person selected should be a well qualified and experienced teacher with a great deal of knowledge about education.	1	2	3	4	5	6

Please don't write in this column.

worst way | poor way | acceptable way | good way | best way

3. LESSON PLANS

The way in which lesson plans are prepared by teachers often varies from school to school. Here is the way it is done in three different schools.

A In one school, groups of teachers prepare outlines for each subject or course, and individual teachers only prepare extra lesson plans if they feel this is necessary. 1 2 3 4 5 7

B In another school, teachers may or may not prepare lesson plans as they see fit, providing there are always lesson plans available for substitute teachers. 1 2 3 4 5 8

C In a third school, teachers are expected to prepare lesson plans for each lesson, which are to be available for inspection at all times. 1 2 3 4 5 9

4. A NEW POLICY

A group of teachers was talking about a new policy that had been introduced into their school, and which they believed would not be in the best interests of the students. There were three views expressed.

A Some said that the best thing to do would be to talk to the administration about the new policy, and see if there was some way it could be changed. 1 2 3 4 5 10

B Some said that they should tell the administration of their position, and refuse to implement the policy, but be prepared to offer help in deciding upon an alternative. 1 2 3 4 5 11

C Some said that it would be best to accept the policy as given and that there was little point in opposing the system. 1 2 3 4 5 12

	worst way	poor way	acceptable way	good way	best way	please don't write in this column.
5. TEACHING						
Three people were discussing teaching. Each had a different idea of what teachers should do.						
A One said that teachers should be concerned with establishing a good learning environment for the students in their classes.	1	2	3	4	5	13
B Another said that teachers should be mainly concerned with meeting the expectations of the Principal and the Superintendent.	1	2	3	4	5	14
C The third said that teachers should be mainly concerned with doing a good job of teaching the specific skills and ideas that students should learn in school.	1	2	3	4	5	15
6. SUPPLIES						
A group of people was talking about the best way to arrange the distribution of supplies in a school. During the discussion, three different opinions emerged.						
A Some said that all teachers should be consulted, and together they should decide on the amount of supplies each teacher should be alloted. Once these allotments had been determined, teachers should not be allowed to exceed them except in special circumstances.	1	2	3	4	5	16
B Some said that supplies should only be obtainable through a designated person, probably the Vice-Principal or Department Head, and that the teachers should obtain supplies through these people as they needed them.	1	2	3	4	5	17
C Some said that teachers should be able to obtain supplies whenever they needed them, and that they should be able to help themselves from the store-room whenever necessary.	1	2	3	4	5	18

	worst way	poor way	acceptable way	good way	best way	please don't write in this column.
7. HIRING						
Three superintendents were talking about the way they hired teachers for their schools. Each had a different way.						
A One said, "I usually look for teachers who can establish a good relationship with students, and who are generalists rather than specialists."	1	2	3	4	5	19
B The second said, "I usually hire who ever is available and competent; providing they have good references, of course."	1	2	3	4	5	20
C The third said, "I usually look for teachers who have specialist qualifications for whatever positions are vacant."	1	2	3	4	5	21
8. A PROBLEM						
In one school, a teacher was experiencing discipline problems with a number of students. This was causing difficulties for some of the other teachers, and one day they were discussing the situation.						
A One said that it would be better if the teacher asked some of the other teachers in the school for help and advice.	1	2	3	4	5	22
B A second said that it would be better if the teacher tried to work the problem out without any help from others.	1	2	3	4	5	23
C A third said that it would be better if the teacher went and asked the Principal for help and advice.	1	2	3	4	5	24

	worst way	poor way	acceptable way	good way	best way	
9. STUDENT PARTICIPATION						
The teachers in one school were concerned about the lack of student participation in extra curricular activities. When this topic was discussed in a staff meeting, three possible solutions were proposed.						
A Some said that an attempt should be made to organize things differently.	1	2	3	4	5	25
B Some said that the best solution was to give the students a greater opportunity to control these activities.	1	2	3	4	5	26
C Some said that the students were probable not aware of the activities organized, and that a greater attempt should be made to inform them and to encourage them to participate.	1	2	3	4	5	27
10. EVALUATING STUDENTS						
Schools are usually required to evaluate students. Here are three different ways in which this can be done.						
A Teachers can report how well a student has performed during the year in their classes.	1	2	3	4	5	28
B A series of standardized tests can be administered at regular intervals to determine how much progress a student is making.	1	2	3	4	5	29
C Tests can be constructed and administered at the end of each year, to measure how well a student has mastered the prescribed program of studies.	1	2	3	4	5	30

please don't write in this column.

	best way	good way	acceptable way	poor way	worst way	
11. DISCIPLINE						
Three people were discussing the best way to ensure a high standard of discipline in all the schools in their district. Each had a different idea.						
A One said that there was no one way that was best for all situations, and each school would have to find a way that proved effective in their situation.	1	2	3	4	5	31
B The second said that the best way was to have a strong Principal in every school.	1	2	3	4	5	32
C The third said that the best way was to have an effective system of rules and regulations that was well enforced in each school.	1	2	3	4	5	33
12. IMPORTANT DECISIONS						
Some teachers were talking about how important decisions were made in their schools.						
A One said that in most cases, the situation was discussed at a staff meeting and no decision was made until everyone, or nearly everyone, had agreed upon a solution.	1	2	3	4	5	34
B The second said that most situations were taken to a staff meeting and fully discussed, ample time being given for everyone to contribute, and then the matter was decided by majority vote.	1	2	3	4	5	35
C The third said in most cases the situation was explained to staff members either individually, or at a staff meeting, and after they had given their opinions, or suggested a solution, it was up to the Principal to make the final decision.	1	2	3	4	5	36

please circle one only in this column.

	best way	good way	acceptable way	poor way	worst way	Please do not write in this column.
13. DUTY						
A group of people was discussing the duties of teachers today. Each had a different view.						
A Some said that teachers should be primarily concerned with meeting the needs of society.	1	2	3	4	5	37
B Some said that teachers should be primarily concerned with meeting the needs of the individual student.	1	2	3	4	5	38
C Some said that teachers should be primarily concerned with meeting the needs and requirements of the school system in which they work.	1	2	3	4	5	39
14. FAILING STUDENTS						
There are a number of procedures that may be adopted by a school with regard to failing students. Here are the procedures adopted by three different schools.						
A In one school, teachers may fail a student only after consulting with other teachers who have had contact with the student concerned, and with the Principal.	1	2	3	4	5	40
B In another school, the decision to fail a student rests solely with the individual teachers, who consult with other members of staff if they feel this is necessary.	1	2	3	4	5	41
C In another school, any decision to fail a student must be confirmed by the Principal, who has the power to overrule a teacher's decision in this matter.	1	2	3	4	5	42

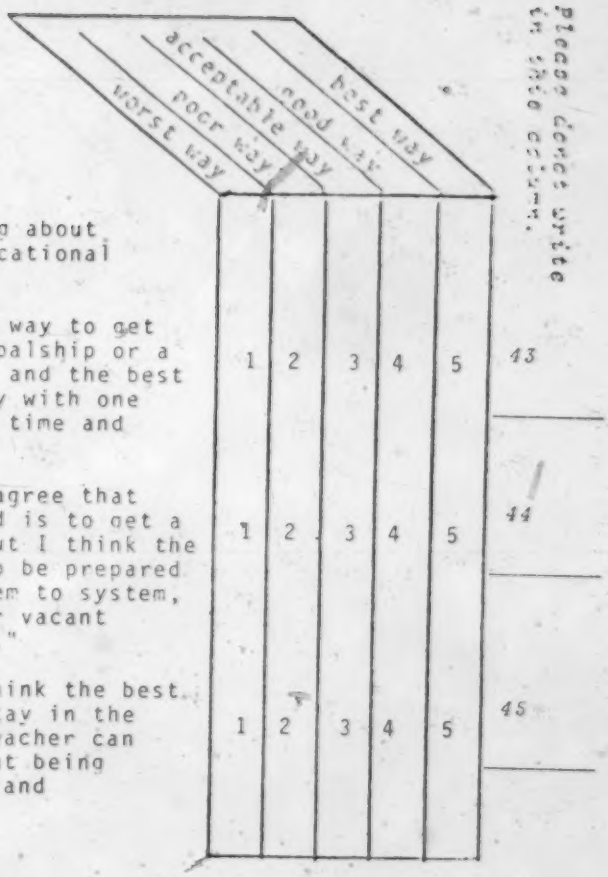
15. SUCCESS

Three teachers were talking about 'getting ahead' in the educational system.

A One said , "The best way to get ahead is to get a principalship or a central office position, and the best way to do that is to stay with one school system for a long time and work up slowly."

B The second said, "I agree that the best way to get ahead is to get a position of authority, but I think the best way to do that is to be prepared to move around from system to system, and to apply for whatever vacant positions are advertised."

C The third said, "I think the best way to get ahead is to stay in the classroom. That way a teacher can earn a good salary without being troubled with extra work and responsibilities."



THANK YOU FOR COMPLETING THE 15 ITEMS.

Please place the loose sheet, Part C, in the booklet, then turn the page and complete Part B.

PART B

Instructions : Please answer all the questions that are applicable by circling the number of the appropriate response.

1. Sex

   1. Male.
   2. Female.

2. Present Position

   1. Full time university student, registered in an undergraduate program in education.
   2. Full time university student registered in a post-graduate program in education.
   3. Full time university student, not enrolled in an Education program.
   4. Unemployed teacher.
   5. Regular classroom teacher.
   6. Department Head.
   7. Assistant Principal.
   8. Vice Principal.
   9. Principal.
   10. Assistant Superintendent.
   11. Deputy Superintendent.
   12. Superintendent.
   13. Central Office Staff Officer.
   14. Department of Education Staff Officer.
   15. A.S.T.A. Employee.
   16. A.T.A. Employee.
   17. School Board Member.
   18. University Professor in Education.
   19. University Professor not in Education.
   20. Other. Please specify : _____

3. Years in present position, as marked above.

   1. 1 year.
   2. 2 years.
   3. 3 years.
   4. 4 - 6 years.
   5. 7 - 9 years.
   6. 10 - 14 years.
   7. 15 - 19 years.
   8. 20 or more years.

4. Years of teacher education.

1. 0 years.
2. 1 year.
3. 2 years.
4. 3 years.
5. 4 years.
6. 5 years.
7. 6 years.

5. Years of teaching experience.

1. 0 years.
2. 1 - 4 years.
3. 5 - 9 years.
4. 10 - 14 years.
5. 15 - 19 years.
6. 20 - 29 years.
7. 30 or more years.

6. Age Category.

1. less than 20 years.
2. 20 - 24 years.
3. 25 - 29 years.
4. 30 - 34 years.
5. 35 - 39 years.
6. 40 - 44 years.
7. 45 - 49 years.
8. 50 - 54 years.
9. 55 - 59 years.
10. 60 or more years.

7. School Size.

1. Not applicable.
2. 1 - 4 teachers.
3. 5 - 9 teachers.
4. 10 - 19 teachers.
5. 20 - 29 teachers.
6. 30 - 39 teachers.
7. 40 - 49 teachers.
8. 50 or more teachers.

8. School Type.

1. Not applicable.
2. grades 1 - 3.
3. grades 4 - 6.
4. grades 1 - 6.
5. grades 1 - 9.
6. grades 1 - 12.
7. grades 7 - 9.
8. grades 7 - 12.
9. grades 9 - 12.
10. Special School.
11. Other. Please specify:

_____

9. Do you presently work in a

1. Rural area ?
2. Urban area ?

10. How satisfied are you with the education system in this province?

1. Very satisfied.
2. Satisfied.
3. Dissatisfied.
4. Very dissatisfied.

11. Did you receive your formal education in Canada?

1. Yes.
2. No. (If No, please specify,

_____)

12. Did you receive your teacher education in Canada?

1. Yes.
2. No. (If No, please specify,

_____)

PLEASE REMOVE THIS SHEET AND COMPLETE AS YOU ANSWER EACH ITEM

PART C

1. How important to you are the problems or situations mentioned in each item? Please indicate the degree of importance to you by circling letters on the following scale for each item :

VI - very important
FI - fairly important
RI - relatively important
NI - not important

1.	VI	FI	RI	NI
2.	VI	FI	RI	NI
3.	VI	FI	RI	NI
4.	VI	FI	RI	NI
5.	VI	FI	RI	NI
6.	VI	FI	RI	NI
7.	VI	FI	RI	NI
8.	VI	FI	RI	NI
9.	VI	FI	RI	NI
10.	VI	FI	RI	NI
11.	VI	FI	RI	NI
12.	VI	FI	RI	NI
13.	VI	FI	RI	NI
14.	VI	FI	RI	NI
15.	VI	FI	RI	NI

2. Please indicate alongside the item number, which of the three given views you feel most other people in a similar position to yourself would consider preferable. Circle the appropriate response.

A - view 'A'
B - view 'B'
C - view 'C'
N - none of the given views

1.	A	B	C	N
2.	A	B	C	N
3.	A	B	C	N
4.	A	B	C	N
5.	A	B	C	N
6.	A	B	C	N
7.	A	B	C	N
8.	A	B	C	N
9.	A	B	C	N
10.	A	B	C	N
11.	A	B	C	N
12.	A	B	C	N
13.	A	B	C	N
14.	A	B	C	N
15.	A	B	C	N

Please remove this sheet and complete as you answer each item.

THANK YOU

FOR YOUR

COOPERATION

It is greatly appreciated

APPENDIX B

STATISTICAL INFORMATION

Appendix B contains two items of statistical information: the Datran program written to identify and list value orientations of respondents, and the ten factor varimax matrix referred to in chapter 6.

THE PATTERN COUNTING PROGRAM

The pattern counting program was written by Christiane Prokop of the Department of Educational Administration at The University of Alberta. This program considers the scores of each respondent for each of the item solutions in the OVIS, and supplies a value orientation pattern from these raw data. For example, a respondent may provide scores of 5 for alternative A on a given item, 3 for alternative B, and 2 for alternative C. If in this example these alternatives represent Process, Task and Pragmatism respectively, then the Datran program would yield a value orientation pattern of PRO>TAS>PRG. The program identifies respondents by assigned numbers located in the left five space field of a normal IBM card, listing all respondents' numbers for any of the thirteen possible patterns associated with each item.

Future researchers who may utilize this or a similar program are urged to validate patterns generated by comparing these to patterns obtained by hand scoring each instrument item for randomly selected respondents, after thoroughly verifying the punched IBM cards containg instrument data.

DATRAN PROGRAM FOR IDENTIFYING AND
LISTING VALUE ORIENTATION PATTERNS
OF RESPONDENTS

```
0001            INTEGER ITEM(15),DES(3,3),PAT(13,5)
0002            INTEGER*2 FREQU(15,13),REF(3,15)
0003            INTEGER ID(15,13,50),INP(15,3),A,B,C
0004            DATA ITEM/1,2,3,2,1,3,1,3,2,1,2,3,1,3,2/
0005            DATA REF/1,2,3,1,2,3,1,2,3,1,3,2,2,3,1,1,3,2,2,3,1,3,2,1,2,3,1,2,
               13,1,1,3,2,1,2,3,1,2,3,1,2,3,2,3,1/
0006            DO 10 I=1,15
0007            DO 10 J=1,13
0008            FREQU(I,J) = 0
0009            DO 10 K=1,50
0010         10 ID(I,J,K) = 0
0011            READ(5,61)((DES(I,J),J=1,3),I=1,3)
0012         61 FORMAT(9A3)
0013            DO 62 I=1,13
0014            READ(5,63) (PAT(I,J),J=1,5)
0015         63 FORMAT(I1,A1,I1,A1,I1)
0016         62 CONTINUE
0017         25 READ(5,11,END=20) M,((INP(I,J),J=1,3),I=1,15)
0018         11 FORMAT(T5,15X,45I1)
0019            DO 12 I=1,15
0020            I1 = REF(1,I)
0021            I2 = REF(2,I)
0022            I3 = REF(3,I)
0023            A = INP(I,I1)
0024            B = INP(I,I2)
0025            C = INP(I,I3)
0026            IF(A-B) 21,22,23
0027         22 IF(A-C)24,39,26
```

```
0028          39 K = 13,
0029             GO TO 40
0030          23 IF(A-C) 27,28,29
0031          28 K = 8
0032             GO TO 40
0033          21 IF(B-C) 30,31,32
0034          31 K = 10
0035             GO TO 40
0036          24 K = 9
0037             GO TO 40
0038          26 K = 7
0039             GO TO 40
0040          27 K = 6
0041             GO TO 40
0042          29 IF(B-C) 33,34,35
0043          34 K = 11
0044             GO TO 40
0045          30 K = 5
0046             GO TO 40
0047          32 IF(C.GT.A) K = 4
0048             IF(C.EQ.A) K = 12
0049             IF(C.LT.A) K = 3
0050             GO TO 40
0051          33 K = 2
0052             GO TO 40
0053          35 K = 1
0054          40 FREQU(I,K) = FREQU(I,K) + 1
```

```
0055              L = FREQU(I,K)
0056              ID(I,K,L) = M
0057           12 CONTINUE
0058              GO TO 25
0059           20 DO 41 I=1,15
0060              WRITE(6,42) I
0061           42 FORMAT(//1X,'ITEM:',I3/)
0062              IM = ITEM(I)
0063              DO 44 J=1,13
0064              K = FREQU(I,J)
0065              M1 = PAT(J,1)
0066              M2 = PAT(J,3)
0067              M3 = PAT(J,5)
0068              K1 = 12
0069              IF(K.LT.K1) K1 = K
0070              IF(K.EQ.0) GO TO 44
0071              WRITE(6,46) DES(IM,M1),PAT(J,2),DES(IM,M2),PAT(J,4),DES(IM,M3),K,
                 1(ID(I,J,L),L=1,K1)
0072           46 FORMAT(3X,A3,2(1X,A1,1X,A3),I5,2X,'ID #:',1217)
0073           48 IF(K1.EQ.K) GO TO 44
0074              K2 = K1 + 1
0075              K1 = K1 + 12
0076              IF(K.LT.K1) K1 = K
0077              WRITE(6,47) (ID(I,J,L),L=K2,K1)
0078           47 FORMAT(30X,1217)
0079              GO TO 48
0080           44 CONTINUE
0081           41 CONTINUE
0082              STOP
0083              END
```

TEN FACTOR VARIMAX ROTATED
SOLUTION FOR ALL OVIS ITEMS

	COMMUNALITIES	1	2	3	4	5	6	7	8	9	10
1	0.758	0.231	0.260	0.117	0.087	0.294	0.141	0.109	0.692	0.061	-0.118
2	0.822	0.749	0.130	0.222	0.110	0.127	0.232	-0.062	0.187	-0.256	-0.091
3	0.755	-0.067	0.811	0.025	-0.047	0.019	0.078	0.090	0.731	0.136	0.109
4	0.662	0.116	0.076	0.741	0.093	-0.093	0.189	-0.053	0.122	-0.107	0.108
5	0.756	0.282	0.530	-0.053	0.229	0.508	0.006	-0.130	0.156	-0.069	-0.190
6	0.692	0.656	0.130	-0.046	-0.027	-0.082	0.045	0.346	0.039	0.104	0.316
7	0.779	0.142	0.131	0.179	0.824	0.120	0.081	0.057	-0.064	0.008	0.094
8	0.770	0.359	-0.308	0.419	-0.152	0.093	0.006	-0.022	0.559	-0.003	0.102
9	0.481	0.157	0.600	-0.013	-0.170	0.012	0.170	-0.109	0.015	0.153	0.042
10	0.760	0.508	0.414	0.481	0.025	0.152	0.063	0.230	0.116	0.071	0.004
11	0.756	0.189	-0.180	0.163	0.331	-0.097	0.159	-0.380	0.062	0.092	0.602
12	0.587	0.008	0.223	0.158	0.155	0.071	0.034	0.041	0.051	-0.060	-0.054
13	0.766	0.741	0.195	0.263	0.207	0.006	0.019	-0.092	0.115	-0.044	0.053
14	0.618	-0.053	0.588	-0.059	0.210	0.009	-0.025	0.156	0.369	0.243	0.040
15	0.620	0.031	0.561	0.234	0.193	0.352	0.055	0.030	0.240	-0.010	0.210
16	0.611	-0.054	0.150	0.404	0.502	0.294	0.185	0.183	-0.009	-0.072	0.105
17	0.737	-0.075	0.099	0.176	0.025	0.316	0.460	0.049	0.156	0.553	0.234
18	0.779	0.774	-0.076	-0.189	-0.04.	0.253	-0.158	0.015	0.165	-0.107	0.097
19	0.781	0.588	0.129	0.278	0.127	-0.089	0.154	0.002	-0.054	0.530	-0.100
20	0.560	0.308	0.223	-0.205	0.202	0.434	0.118	-0.003	0.219	-0.092	0.278
21	0.549	0.485	0.330	0.106	0.183	0.207	-0.005	0.147	0.008	-0.009	0.338
22	0.712	0.368	0.160	0.496	0.228	0.174	-0.412	-0.093	0.169	0.087	0.090
23	0.754	0.142	0.379	0.177	-0.256	-0.004	-0.131	-0.081	0.262	0.571	0.272
24	0.791	0.371	0.226	-0.065	0.574	-0.185	0.190	-0.170	0.009	0.349	0.217
25	0.742	0.312	0.292	0.121	0.051	0.117	0.069	0.167	0.065	0.081	0.697
26	0.784	0.478	0.164	0.245	0.496	-0.008	-0.305	-0.134	0.164	0.052	-0.294
27	0.781	0.362	0.545	-0.063	-0.026	-0.026	0.386	0.168	-0.004	0.199	0.245
28	0.826	0.720	0.101	-0.048	-0.002	0.250	0.252	-0.218	-0.061	0.311	0.148
29	0.691	0.273	0.548	-0.191	0.229	0.341	0.065	0.256	0.177	-0.082	0.048
30	0.802	0.103	-0.019	0.786	0.080	0.211	0.110	0.133	-0.059	0.297	0.012
31	0.733	0.724	0.088	0.273	0.171	-0.004	-0.155	0.070	-0.017	0.259	-0.047
32	0.756	0.023	-0.044	0.114	0.135	0.132	0.755	0.181	0.259	-0.000	0.185
33	0.723	0.104	0.439	0.208	0.038	0.141	0.617	-0.160	-0.052	-0.078	0.015
34	0.712	0.451	-0.153	-0.124	0.195	0.309	-0.167	-0.169	0.088	0.508	-0.116
35	0.703	0.419	0.224	0.058	0.079	0.246	-0.006	-0.611	-0.113	0.119	0.076
36	0.775	0.051	0.060	0.198	0.046	0.150	0.373	0.741	0.080	0.086	-0.058
37	0.603	0.353	0.541	0.011	0.202	-0.076	-0.139	0.268	0.082	0.143	0.145
38	0.620	0.714	0.055	0.077	0.018	-0.089	0.168	-0.007	0.026	0.140	0.234
39	0.655	-0.024	0.318	0.005	0.111	0.672	0.189	0.103	0.119	0.167	-0.019
40	0.652	0.340	0.233	0.103	0.245	-0.003	0.528	0.074	0.032	0.325	-0.145
41	0.746	0.048	-0.127	0.313	-0.153	0.768	-0.003	-0.105	0.003	0.044	0.036
42	0.734	0.181	0.414	0.017	0.144	-0.052	-0.144	0.663	0.078	-0.108	0.169
43	0.677	0.486	0.307	-0.305	0.327	-0.144	0.068	0.298	0.004	0.063	0.169
44	0.734	0.247	0.201	-0.230	0.214	0.315	0.214	0.392	0.283	0.308	0.068
45	0.500	0.160	0.025	-0.187	0.436	-0.059	0.202	0.191	0.364	-0.022	0.073
	31.839	6.803	4.706	3.135	2.808	2.750	2.695	2.551	2.236	2.220	1.935
PERCENT OF TOTAL VARIANCE											
	70.753	15.117	10.458	6.967	6.239	6.112	5.988	5.669	4.969	4.934	4.299